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ABSTRACT

A study attempted to derive the meaning of critical thinking in adult education through exploration of graduate faculty members' perceptions and perceived practices of critical thinking in adult education. Grounded theory methodology was used to explain the meaning of critical thinking to adult educators. The primary data sources were unstructured interviews with 12 adult educators who currently teach or have previously taught adult education courses in institutions in the United States that offer graduate degrees in adult education. Other data sources included relevant documents and field notes. Data were analyzed and coded using the constant comparative method. The analysis of data uncovered four themes based on participants' perceptions: the goals of adult education; conceptualizations of critical thinking; impacts on teaching; and importance of critical thinking in adult education. Four conclusions were drawn: (1) there are conflicting and contested goals of adult education; (2) there is little agreement about the conceptualization of critical thinking by graduate faculty in adult education; (3) graduate faculty in adult education may or may not be fostering critical thinking skills in their students; and (4) what matters in adult education may not be critical thinking but critical reflection. Further research on the needs for critical thinking in adult education and the possibility of moving from individual development to social development as the goal of adult education is suggested. (Contains 248 references.) (Author/KC)

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CRITICAL THINKING IN ADULT EDUCATION: AN ELUSIVE QUEST FOR A DEFINITION OF THE FIELD

A Dissertation
Presented to
The School of Education
Drake University

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

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CRITICAL THINKING IN ADULT EDUCATION: AN ELUSIVE QUEST FOR A DEFINITION OF THE FIELD

An abstract of a Dissertation by
Joann M. Vaske
June 2001
Drake University
Advisor: Pamela M. Curtiss

The Problem. My purpose in this study was to understand the meaning of critical thinking in adult education. I addressed the following research question: What are graduate faculty members' perceptions and perceived practices of critical thinking in adult education?

Procedures. Grounded theory methodology was used to explain the meaning of critical thinking to adult educators. The primary data source was unstructured interviews with twelve adult educators who currently teach or have previously taught adult education courses in institutions in the United States that offer graduate degrees in adult education. Other data sources included relevant documents and field notes. Data were analyzed and coded using the constant comparative method.

Findings. The analysis of data uncovered four themes based on participants' perceptions: (a) the goals of adult education, (b) conceptualizations of critical thinking, (c) impacts on teaching, and (d) importance of critical thinking in adult education.

Conclusions. Four conclusions resulted from an examination of participants' perceptions as well as relevant literature. First, there are conflicting and contested goals of adult education. Second, there is little agreement about the conceptualization of critical thinking by graduate faculty in adult education. Third, graduate faculty in adult education may or may not be fostering critical thinking skills in their students. Finally, what matters in adult education may not be critical thinking but critical reflection.

Questions and Implications. The study produced more questions than answers. Three major questions are: (a) What is the work of adult education at the beginning of the 21st century? (b) If the field moves toward social development as a goal of adult education, what might adult educators need to understand about their changing work? (c) Given the current emphasis on "critical reflection," does critical thinking in adult education really matter? Adult educators concerned about these issues may wish to reflect critically on their practice, study the merits and drawbacks of moving from individual development and toward social development as the goal of adult education, and continue their dialogue on the goal(s) of adult education.

Acknowledgements

"It takes a village to do a dissertation!" as one of the participants in this study pointed out. I wish to acknowledge those "villagers" who have contributed in various ways to this endeavor.

First, it was my good fortune to work with my dissertation advisor and committee. Dr. Pamela M. Curtiss was instrumental in helping me conceptualize and carry out the study. Only she will recognize the considerable extent to which ideas, issues, concepts, and questions raised in the following pages originated in or were refined by hours of "conversation." With her unwavering support and encouragement, this study is immeasurably better than it otherwise would have been, and she deserves my deepest gratitude. A special thank you is in order to Dr. Charles S. Greenwood who has been one of my mentors over the years and whose most recent contribution to my intellectual development was his service on my dissertation committee even though he is "officially" retired. I also thank Dr. Aubrey Pearre (Perry) Johnston who paved the way for a happy conclusion to this undertaking, provided the title to the study, and strengthened the manuscript in many ways.

I also owe a debt of gratitude to the participants in this study whose perspectives and insights not only made this study possible but also transformed my thinking about what matters in adult education.

Further, I thank the Governing Board of the FINE Foundation for providing the time necessary for me to put these thoughts down on paper. I also thank my FINE colleagues, Dr. Dean Frerichs and Ms. Jill Joseph, who assumed additional responsibilities while I worked on this study.

Finally, I offer a heartfelt thanks to my family, friends, and colleagues (especially Diane Crozier) for their considerable support over the past year.

Dedication

This dissertation is lovingly dedicated to the memory of my father, Leander John Vaske. Although he had "formal" schooling only through eighth grade, he understood the importance of education and spent his life learning. My father's beliefs and values have profoundly influenced my views of the world. In fact, I have arrived at this juncture in my education, in large part, because he provided the foundation and inspiration.

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Chapter 1

INTRODUCTION

"Learning to think critically is one of the most significant activities of adult life."
(Brookfield, 1987, p. ix)

Many adults are ill-prepared to live, work, and function effectively in our fast-changing and highly technical society. In fact, based on 1992 test results of adult literacy, almost half of all American adults do not perform at the level of literacy considered by the National Education Goals Panel to be necessary for competing successfully in a global economy and for exercising the rights and responsibilities of citizenship (Gronlund, 1993). The challenge is how to develop the skills needed to be productive and informed members of a world marked by constant and rapid change. In responding to this challenge, educators, employers, and society at large began calling for the development of critical thinking skills (Brookfield, 1987; Davis & Botkin, 1995; Glaser & Resnick, 1991; Halpern, 1993; Kerka, 1992; Paul, 1990; Sternberg, 1985). They argued that to survive in the Information Age, individuals must ask questions, challenge assumptions, invent new ways of solving problems, connect new knowledge to information they already have, and apply their knowledge and reasoning skills in new situations. In short, individuals must develop critical thinking skills.

The arguments for critical thinking were successful. In the span of a few years, the critical thinking movement gained momentum in elementary and secondary schools, at the undergraduate and graduate levels, in professional education programs, and in human resource development programs.

While the debate continues about when to introduce critical thinking into the curriculum, it appears the development of critical thinking skills is more appropriate and teachable in mature learners who have the foundational knowledge and experience as well as the propensity for critical scrutiny (Brookfield, 1986; Garrison, 1991; McPeck, 1990). Consequently, critical thinking has become a primary and essential function of adult education (Brookfield, 1987; Garrison, 1991).

Theoretical Foundation

The symbiotic relationship between critical thinking and adult education may be explained in part by the purposes for teaching critical thinking which are closely aligned with the basic aims of adult education as delineated by Hallenbeck (1964):

> to maintain an adult population up to the standards of competence in the knowledge, wisdom, and skill which society requires; to develop in adults an understanding of the serious problems which interrupt the operations and progress of their cooperative society and prepare them to participate in the solution of these problems; and to provide all adults with opportunities for their highest possible development in attitudes, understanding, knowledge, and quality of human existence toward the goal of greater self-fulfillment and realization of each individual human being. (p. 7)

It appears that critical thinking is firmly situated within the dual functions of adult education; namely, to promote individual growth and to maintain and/or promote the good society (Darkenwald & Merriam, 1982). In fact, Brookfield (1990c) claimed critical thinking is necessary for survival in personal relationships, in the workplace, and for maintaining a democratic world while Merriam and Brockett (1997) believed learning to think critically can lead to "empowerment, transformation, and emancipation – in short, social action" (p. 255).

Adult educators have had a long-standing interest in developing their students' ability to think critically. Eduard Lindeman, the father of adult education, adopted Dewey's (1933) problem-solving model with its process of "identifying and challenging preconceptions or assumptions, exploring new ways of thinking, and then evaluating these ideas through the experience of living" (Garrison, 1991, p. 296). Malcolm Knowles, Lindeman's chief disciple and a prominent leader in adult education, embraced and expanded upon Lindeman's position on personal experience and problem solving which are closely associated with the critical thinking process.

Although interest in critical thinking among adult educators may be traced to Lindeman and Knowles, the individual who explicitly brought critical theory to the attention of contemporary adult educators was Jack Mezirow (1981) who derived a mode of learning called "perspective transformation" (p. 6) which he described as

> the emancipatory process of becoming critically aware of how and why the structure of psycho-cultural assumptions has come to constrain the way we see ourselves and our relationships, reconstituting this structure to permit a more inclusive and discriminating integration of experience and acting upon these new understandings. (p. 6)

Mezirow's cycle of perspective transformation is closely related to previously stated phases of critical thinking; that is, appraisal of personal experience and integration of perspectives into everyday living.

Stephen Brookfield, a contemporary adult educator and one of the leaders in the critical thinking movement, proposed a five-phase model of critical thinking. His model, similar to Dewey's (1933), describes a triggering event, appraisal of the situation,

exploration to explain anomalies, development of alternative perspectives, and integration of tentative solutions into every day living (Brookfield, 1987).

Adult educators Darkenwald and Merriam (1982) also suggested that knowledge comes from critically reflecting and acting on life's experiences. They believed a model of learning for adult education should include: recognizing a problem, analyzing it, discussing it in terms of other people's experiences and available information, using information to formulate solutions, and acting upon the solution(s). Central to this model are critical reflection and problem solving which they perceive as the preferred methods of adult education.

Adult educators generally accept the development of critical thinking skills as one of the goals of adult education (Brookfield, 1987, 1994b; Candy, 1991; Mezirow & Associates, 1990; Peters, Jarvis & Associates, 1991). This supposition was confirmed through a recent exploratory study of adult educators who are currently teaching or previously taught adult education courses in institutions within the United States offering graduate degrees in adult education (Vaske, 1998).

Adult educators' commitment to developing their students' ability to think critically has intensified over the years. In fact, Brookfield (1990b) argued that critical thinking is "the best chance for adult education to define itself as a distinct domain of research theory and practice" (p. 25). Further, he believed that "critical thinking seems to hold the promise of constituting a universal theory of adult learning and, by implication, a template for adult education practice" (Brookfield, 1997, p. 17). Hanson (1996) suggested that transformational learning – with critical thinking as one of its key

components – has replaced andragogy as the primary learning theory of adult education. Mott (1997) summarized four megachallenges facing adult education and concluded that adult educators could help their students with two of the challenges – rapid technological advancement and the shift to an information-based economy – by fostering reflective and critical thinking.

Statement of the Problem

> *". . . theory without practice leads to empty idealism, and action without philosophical reflection is mindless activism."*
>
> (Darkenwald & Merriam, 1982, p. 37)

Is critical thinking, in practice, the ultimate goal of adult education as the literature suggests? How do graduate faculty in adult education think about critical thinking and how does that thinking influence their practice? Despite the avowed support for critical thinking as a goal of adult education, there is a paucity of research to help us understand if theory and practice are in concert.

Purpose of the Study

The purpose of this qualitative research study was to understand the meaning of critical thinking in adult education. One of the benefits of qualitative research studies is to "validate, explain, illuminate, or reinterpret quantitative data gathered from the same setting" (Miles & Huberman, 1994, p. 10). This study, a follow up to an exploratory study I conducted earlier (Vaske, 1998), attempts to shed light on adult educators' understanding of and experience with critical thinking.

Research Question

The study was guided by a single, overarching question: What are graduate faculty members' perceptions and perceived practices of critical thinking in adult education?

Methodology

A qualitative research approach, specifically grounded theory, was used to carry out the study. A qualitative research design was warranted because the topic, research question, and purpose of the study demanded an in-depth approach (Rubin & Rubin, 1995), and the focus of the study was on participants' (not the researcher's) perspectives and experience with critical thinking.

For this study, I, as the researcher, was the primary data collection instrument. Using purposive sampling techniques, I selected a sample of eleven individuals who are currently teaching adult education courses and one administrator who previously taught adult education courses in institutions within the United States offering graduate degrees in adult education. In-depth, unstructured interviews were conducted face-to-face with the twelve participants. The interviews were audiotaped and transcribed verbatim. Other data sources included relevant documents (e.g., course syllabi, student products reflecting critical thinking, participants' publications and vitae) and field notes.

I collected and analyzed data concurrently (Lincoln & Guba, 1985; Strauss & Corbin, 1998). Data were manually coded using open, axial, and selective coding procedures (Strauss & Corbin, 1998). The constant comparative method (Glaser &

Strauss, 1967) was used to develop themes and subthemes. Finally, I attempted to enhance the trustworthiness of the findings through triangulation, member checks, controlling for researcher bias, and developing and maintaining an audit trail (Lincoln & Guba, 1985).

Significance of the Study

There were several compelling reasons for conducting this study. First, given the increasing complexity of our society, the development of critical thinking skills is a laudable educational goal and our best hope of managing complex, day-to-day problems and issues. Moreover, adult educators have confirmed that critical thinking is within the purview of adult education and, in fact, is a major goal of adult education. Yet, despite the volume of literature on critical thinking over the past 20 years, there is a dearth of research studies investigating the meaning of critical thinking to adult educators. Little is known about what is happening at the intersection of theory and practice. Important questions remain unanswered. The study gained insight into graduate faculty's experience of critical thinking and thus attempted to fill a gap in the existing literature.

A second reason for undertaking the proposed study was closely related to the first. Much of the reported research has focused on undergraduate faculty and traditional students (e.g., Paul, Elder, & Bartell, 1997; Ruminski & Hanks, 1995) rather than on adult education and adult learners. Given the dramatic increase in recent years in the number of adult learners who are enrolling in college courses (Cross, 1981), focusing

attention on adult educators who are engaged in teaching these adult learners allowed new perspectives in the field of critical thinking to emerge.

Third, because the findings are grounded in the data, they may provide a meaningful guide for further conversation and reflection on critical thinking and its role in adult education.

In summary, this study was significant because while much has been written about critical thinking as a theoretical framework for adult education, little is known about adult educators' understanding and perceived practice. Without this information, the field of adult education might continue to espouse critical thinking as a unifying framework, but adult learners might not develop the critical thinking skills essential to the quality of their lives. This study explored the meaning perspectives of graduate faculty involved with teaching critical thinking, a substantive area about which little is known.

Definitions of Terms

Terms used throughout this study are operationally defined as follows:

Adult – an individual performing social roles typically assigned by our culture to those it considers adults; that is, the roles of worker, spouse, parent, responsible citizen, soldier, and the like. A person is adult "to the extent the individual perceives herself or himself to be essentially responsible for her or his own life" (Knowles, 1980, p. 24).

Adult education – " the process whereby persons whose major social roles are characteristic of adult status undertake systematic and sustained learning activities for the

purpose of bringing about changes in knowledge, attitudes, values, or skills" (Darkenwald & Merriam, 1982, p. 9).

Adult educators – individuals who are currently teaching or previously have taught graduate-level courses in adult education in institutions granting graduate degrees in adult education.

Adult learners – individuals who have multiple roles and responsibilities, have accumulated many life experiences, who in passing through a number of developmental phases reinterpret and rearrange their past experience, and who experience anxiety and ambivalence toward learning (Brookfield, 1986).

Delimitations

1. The sample in this study consisted of twelve adult educators, ten of whom attended the American Association of Adult and Continuing Education (AAACE) conference in November, 2000, and who volunteered to participate in the study.
2. Qualitative data collection techniques included unstructured, face-to-face interviews and compilation of relevant documents.

Chapter 2

REVIEW OF LITERATURE

This chapter presents a review of selected literature related to three components of critical thinking – conceptualization of critical thinking, development of thinking skills, and methods of assessing critical thinking.

Conceptualization of Critical Thinking

This section of the literature review is divided into four parts. The first part provides an overview of the scope and generalizability of critical thinking skills. The second part focuses on adult educators' definitions of critical thinking. The third part describes research on definitions of critical thinking. The concluding part summarizes the various conceptualizations of critical thinking drawn from theory and research.

Definitions of Critical Thinking

There are many variations on the definition of critical thinking, resulting in "considerable confusion and vagueness about the concept" (Garrison, 1991, p. 287). Following a meta-analysis of 20 studies of critical thinking, Bangert-Drowns and Bankert (1990) reported that critical thinking has been equated with a multiplicity of constructs, including intelligence, domain-specific expertise, problem solving, logic and sound reasoning, and other higher order mental activities. The following section of this review will be limited to two aspects of critical thinking which have influenced adult educators' thinking about the construct – its scope and generalizability.

Scope of Critical Thinking

The scope of critical thinking has been widely debated with some scholars supporting a narrow definition and others a broader definition. Beyer (1984) defined critical thinking in a narrow sense, arguing that critical thinking is a set of nine discrete skills, ranging from determining the reliability of a source to determining the strength of an argument. Essentially, Beyer viewed critical thinking as a product rather than a process. Others who defined critical thinking in a narrow sense equated critical thinking with problem solving (D'Angelo, 1971; Dressel & Mayhew, 1954; Kurfiss, 1988).

A number of critical thinking experts supported a broader definition, asserting that critical thinking involves dispositions as well as skills. For example, Paul (1990) believed critical thinking meant approaching issues from multiple perspectives and remaining open-minded in order to understand points of view with which one disagrees. Siegel (1988) linked critical thinking with skills and dispositions and described a "critical spirit" which includes the ability to reason but also "certain attitudes, dispositions, habits of mind, and character traits" (p. 39). Ennis's (1985) definition is the one most frequently quoted in the literature: "Critical thinking is reasonable, reflective thinking that is focused on deciding what to believe or do" (p. 45). Scholars have interpreted this definition broadly to include higher order thinking, problem solving, and metacognition (Schrag, 1992).

Even among those who agree that critical thinking involves both skills and dispositions, there is continuing debate about which skills and which dispositions constitute critical thinking. Ennis (1985) developed a taxonomy of critical thinking skills

that includes thirteen dispositions and twelve abilities. Critical thinking is often conceptualized as "suspended judgment," "healthy skepticism," or "reflective thought" (Dewey cited in Meyers, 1986, p. 8).

In 1990, the results of a two-year study of critical thinking by a body of 46 scholars were published. The panel generated a list of six cognitive skills – interpretation, analysis, evaluation, inference, explanation, and self-regulation. In addition, they recognized several affective dispositions that good critical thinkers exhibit, such as inquisitiveness, open-mindedness, flexibility, fair-mindedness, and persistence (Facione, 1990). The panel concluded that "educating good critical thinkers . . . combines developing critical thinking skills with nurturing those dispositions which consistently yield useful insights and which are the basis of a rational and democratic society" (Facione, 1990, p. 3).

Critical thinking also is believed to have a social nature. Theorists have argued that critical thinking does not occur unless there is a sharing and interacting with others. For example, Dewey (1933) and McPeck (1990) believed that critical thinking requires reflection (internal process) followed by communication with others (external process). Freire (1989) claimed that only dialogue with others is capable of generating critical thinking. Halpern (1984), on the other hand, viewed critical thinking as an internal process where one "takes new information, combines it with information stored in memory, and ends up with something more than and different from what one started with" (p. 4).

Generalizability of Critical Thinking Skills

The long-standing debate about the generalizability or specificity of critical thinking remains unresolved. King (1994) described both sides of the issue. On one hand, those who see critical thinking as a generalizable skill tend to support traditional critical thinking courses. Ennis (1985) called this the general approach to teaching critical thinking. Studies by Browne, Haas, and Keeley (1978), Davidson and Dunham (1996), and Logan (1976) supported the hypothesis that direct teaching of critical thinking skills through courses designed specifically to teach critical thinking significantly improves students' thinking skills. Proponents of the general approach also believe that once students learn the generic skills, transfer to other contexts will automatically occur. de Bono's (1983) research suggested, however, that for these skills to be successfully transferred, they must relate to real-world circumstances, and students must have opportunities to practice these skills. Halpern (1996), too, argued that the best way to promote transfer of learning is with the conscious and deliberate use of the skills, adding that the skills should be learned in a wide variety of contexts. Further, she claimed that critical thinking skills do not necessarily develop as a by-product of discipline-specific course work.

On the opposing side, those who perceive critical thinking skills as domain specific or context bound (e.g., Brookfield, 1997; McPeck, 1990; Kurfiss, 1988) favor integrating critical thinking into specific content courses (King, 1994). They hold the position that thinking skills should be taught in context and that they do not transfer automatically. There are two primary ways to carry out this approach. With infusion,

critical thinking instruction is infused into subject matter instruction, but the principles of critical thinking skills, dispositions and abilities are clearly explicated. Chance (1986) supported this approach. With immersion, critical thinking skills are taught through subject matter, but the steps of critical thinking remain implicit. Adult educators tend to use this approach (Vaske, 1998). However, the literature clearly reported that explicit teaching of critical thinking skills is more effective than an indirect approach (Bangert-Drowns & Bankert, 1990; Chance, 1986; Halpern, 1993, 1998).

The position one assumes related to the generalizability or specificity of critical thinking skills has significant implications for teaching and evaluating critical thinking skills as will be seen later in this chapter.

Conceptualization of Critical Thinking in Adult Education

> *"Critical thinking is not an abstract, rarified academic process, observable only in college classrooms. . . . It is an activity embedded in the vivid contexts of adult lives."*
> (Brookfield, 1987, p. 228)

Adult educators have a long-term interest in critical thinking (see Chapter 1) and have spent considerable effort trying to define the construct. Further, they tend to share a definition of critical thinking as a process that helps adult learners address problems by questioning long-held assumptions, exploring new ways of thinking, weighing alternatives in terms of other people's experiences and available information, forming solutions, and acting on the solutions (Brookfield, 1987; Darkenwald & Merriam, 1982; Garrison, 1991).

The most frequently cited definition in the adult education literature originated with Brookfield (1987). Initially, he conceptualized critical thinking as a two-fold activity of "identifying and challenging assumptions" and "exploring and imagining alternatives" (pp. 15, 229) in response to a contextually specific event triggered by either positive or negative life events. To become critical thinkers, he insisted, individuals must be aware of the assumptions by which they think and act, pay attention to context, be skeptical of quick fixes, and be open to alternative ways of looking at and behaving in the world. In subsequent writings (1993, 1994b, 1996), Brookfield clarified and expanded his notion of critical thinking. He now sees critical thinking not only as a questioning and replacement of commonly held assumptions about the self and group but also a questioning of social and political structures (Brookfield, 1996).

Brookfield's (1987) definition emphasizes the importance of critical thinking in everyday life. In fact, critical thinking is considered vital in personal relationships, in the workplace, and for maintaining a democratic world (Brookfield, 1990c, 1997).

Models of Critical Thinking in Adult Education

Models of critical thinking have been proposed by several adult educators. One of the first models was proposed by Mezirow (1978). His theory of transformative learning, a precursor of other models of critical thinking, describes steps adults take to interpret and make sense of their life experiences. The steps include facing a "disorienting dilemma" (p. 168), assessing assumptions, coming to the recognition that others have gone through a similar process, exploring options, formulating a plan of action, and re-entering life based on a transformed perspective (Mezirow, 1991).

Brookfield's (1987, 1994b) model of critical thinking shares many of the components of Mezirow's (1991, 1995) process of transformative learning. The phases of Brookfield's critical thinking model are a triggering event, appraisal of the situation, exploration of new ways to explain the discrepancies, development of alternative perspectives, and integration of tentative solutions into daily living. According to this model, critical thinking involves rational skills but also reflection and informed action (Brookfield, 1996).

Brookfield's model of critical thinking is similar to Dewey's problem solving cycle as are the models developed by Darkenwald and Merriam (1982), Fulton (1989), and Garrison (1991). In fact, there is considerable overlap among the models perhaps because they are largely a "reformulation . . . of Dewey's reflective-thinking cycle" (Garrison, 1991, p. 292).

The definitions and models of critical thinking posited by adult educators seem to share several elements. They emphasize the role of context, concentrate on real world problems, and characterize critical thinking as a cognitive and emotive process that involves internal and external procedures. In addition, they claim that critical thinking entails several steps: a disorienting event, appraisal of the situation, exploration and development of alternatives, application, and reintegration.

Research on Definitions of Critical Thinking

The review of the literature produced three recent empirical studies that examined definitions of critical thinking. Two studies were conducted with faculty in higher education; the third queried adult educators on their perceptions of a definition of critical

thinking. For the first study, Ruminski and Hanks (1995) surveyed journalism and mass communication instructors at the undergraduate level. Of 172 instructors who responded to an open-ended question requesting definitions of critical thinking, the largest number defined critical thinking as "processing information," a perception that conflicts with the concept of critical thinking as a complex cognitive and problem solving process. In fact, only one respondent named problem solving as central to the definition of critical thinking. Less than one percent listed "skepticism," "independence," or "willingness to question." Further, the respondents did not mention attitudes or dispositions which experts believe are integral to the definition of critical thinking. The researchers concluded that journalism and mass communication educators seem to lack a coherent, comprehensive concept of critical thinking.

The second study assessed the extent to which teacher preparation programs in California prepared candidates to teach critical thinking skills at the elementary and secondary levels (Paul et al., 1997). One part of the study was designed to assess knowledge of critical thinking among faculty members teaching in these programs. One hundred forty in-depth telephone interviews were conducted. Although most respondents said that critical thinking was a primary objective of their instruction, only 19% gave a clear explanation of what critical thinking is and only eight percent provided a clear conception of the critical thinking skills they thought were most important for students to develop.

The third study (Vaske, 1998) used a questionnaire to elicit responses from adult educators who currently teach or previously taught adult education courses in institutions

within the United States offering graduate degrees in adult education. Responses from 68 adult educators indicated that respondents overwhelmingly agreed that one of the goals of adult education should be to develop students' critical thinking skills. Respondents indicated teaching critical thinking skills frequently or all the time, using an indirect (immersion) approach to teaching. Despite these findings, participants reported that adult educators do not have a clear idea about what critical thinking is.

Summary of the Theory and Research on Conceptualizations of Critical Thinking

The review of literature resulted in several conclusions related to definitions of critical thinking. First, the theoretical base is vast. Specifically, the adult education literature on critical thinking is voluminous, which is not surprising since critical thinking is considered an identifying characteristic and central function of adult education. Second, critical thinking is a broad and complex construct which may account for the lack of agreement about what it is. Third, although no standard definition has emerged, contemporary scholars – including adult educators – tend to agree that critical thinking includes cognitive skills as well as affective dispositions. There also is considerable overlap among the dispositions and skills identified by various scholars – e. g., problem solving and metacognition frequently appear among lists of cognitive skills while skepticism and reflection are commonly viewed as dispositions of critical thinking. This suggests that the development of good critical thinkers should include not only skill development but also the nurturing of dispositions toward critical thinking (Browne & Keeley, 1988; Kurfiss, 1988; Paul, 1993; Siegel, 1988). Further, critical thinking

involves both an internal process (reflection) and an external process (collaboration with others). Proposed models of critical thinking in adult education include these dimensions and elements of critical thinking. Fourth, the debate about the generalizability of critical thinking skills has not been resolved although a review of selected literature appears to place more scholars on the side of critical thinking as context bound. Adult educators are clearly in this camp. Fifth, the literature reported few research studies related to definitions of critical thinking. Results of three studies indicated that faculty in higher education and adult education do not have a clear idea of what critical thinking is. Finally, despite the similarities within definitions and models, the field of adult education has yet to develop or adopt a uniform and comprehensive conceptualization of critical thinking.

This section of Chapter 2 reviewed the theory and research base on conceptualizations of critical thinking. The next section summarizes the literature on the efficacy of various instructional methods on the development of critical thinking skills.

Developing Critical Thinking

> *"To the degree that critical thinking contributes to a more rational and humane society, its cultivation merits a significant expenditure of educators' collective time, wisdom, and effort."*
>
> (Kurfiss, 1988, p. vi)

A review of the literature indicated general agreement on the following issues related to the development of critical thinking skills. First, fostering critical thinking is a crucial component of the teaching and learning process (Brookfield, 1987; Cranton, 1994). Second, critical thinking skills can be taught (Brookfield, 1987, 1990c; Chance,

1986; Halpern, 1993, 1998; Kurfiss, 1988; McPeck, 1981). Third, explicit teaching of critical thinking skills is more effective than the indirect approach (Bangert-Drowns & Bankert, 1990; Chance, 1986; Halpern, 1993, 1998). Fourth, programs that concentrate continuously on critical thinking development are more successful than programs that periodically emphasize critical thinking (McKeachie, Pintrich, Lin, & Smith, 1986).

Despite these agreements, however, there remains a great deal that is unknown about the development of critical thinking skills. In fact, the primary question remains unanswered. Research has been unable to explain clearly how critical thinking is best developed in individuals. Which instructional methods and which facilitator variables positively impact the teaching-learning process remain unclear, in part, because of the paucity of research published by adult educators. In addition, facilitating the development of critical thinking is a complex process. Effective facilitators must have knowledge in several areas including knowledge of critical thinking, knowledge of adult learners, knowledge of effective instructional practice, and knowledge of evaluation strategies.

This section of the literature review – the development of critical thinking – is divided into four parts: (1) adult learning theory, (2) instructional methods, (3) facilitator variables, and (4) a summary of the literature and research related to the development of critical thinking. Although instructional methods and facilitator variables are treated as discrete entities, there are considerable intra- and inter-relationships among them. Research findings, when available and appropriate, have been incorporated into the text

of these sections. Again, research studies carried out in higher education are included since few studies at the level of adult education have been published.

Adult Learning Theory

It is beyond the scope of this review to provide an in-depth review of the literature related to adult learning theory. However, based on its importance to the development of critical thinking, a cursory review is included.

There is no single theory that explains how adult learning differs from children's learning. In fact, given the wide-ranging diversity of adult learners and learning situations, no one set of principles for guiding either research or practice would be adequate (Merriam & Caffarella, 1999) and, in fact, could be dangerous (Brookfield, 1986). However, the literature described a number of frameworks or models, each of which contributes to our understanding of adults as learners. What follows is an overview (presented more or less chronologically) of selected adult learning theory over the past forty years. These principles were selected because they can be linked to conceptualizations of critical thinking and to methods of assessing critical thinking.

Beginning with Gibb (1960) the following principles of adult learning have been advocated over the years: learning must be problem centered and experience centered. The experience must be meaningful to the learner, and the learner must be free to examine the experience. Goals must be set and pursued by the learner, and the learner must have feedback about progress toward goals (summarized in Brookfield, 1986, p. 26).

Miller (1964) identified six conditions for learning based on the belief that cognitive (rather than behaviorist) models of learning account for adult development. The six conditions are: students must be motivated to change behavior; they must be aware of the inadequacy of present behaviors; they must have opportunities to practice alternative behaviors; they must receive reinforcement of correct behavior, and they must be presented appropriate materials sequentially (summarized in Brookfield, 1986, p. 27).

Perhaps the best known framework of adult learning is andragogy or "the art and science of helping adults learn" (Knowles, 1980, p. 43). The concept has evolved since its origins, due in part to an emerging understanding of the distinctions between andragogy and pedagogy, defined as "the art and science of helping children learn" (p. 43). In current literature, andragogy is described as a set of five assumptions (the fifth was added after the original four) about the adult learner: (1) As a person matures, his or her self-concept moves from that of a dependent personality toward one of a self-directing human being. (2) An adult accumulates a growing reservoir of experience that is a rich resource for learning. (3) The readiness of an adult to learn is closely related to the developmental tasks of his or her social role. (4) There is a change in perspective as people mature – from future application of knowledge to immediacy of application. Thus an adult is more problem centered than subject centered in learning (Knowles, 1980, pp. 44-45). (5) Adults are motivated to learn by internal factors rather than external ones (Knowles, 1984, p. 61).

For each of these five assumptions, Knowles presented implications for the design, implementation, and evaluation of learning activities. For example, with regard

to the first assumption (i.e., adults move toward self-directedness), Knowles suggested that the classroom climate should be physically and psychologically conducive to learning. The climate should cause "adults to feel accepted, respected, and supported" (Knowles, 1980, p. 47). Further, there should exist "a spirit of mutuality between teachers and students as joint inquirers" (p. 47). Being self-directed meant that adult students could participate in diagnosing their learning needs, the planning and implementation of their learning experiences, and the evaluation of those experiences.

Despite the fact that andragogy has been the primary model of adult learning for over thirty years, relatively little empirical work has been done to test the validity of its assumptions or its usefulness in predicting adult learning behavior (Merriam & Caffarella, 1999). Still, the assumptions have "intuitive validity" (Merriam & Cafferella, 1999, p. 286) which makes andragogy popular with practitioners. Scholars, however, have continuously debated the merits of the andragological assumptions. Points of criticism will not be repeated here (see Brookfield, 1986). While the other assumptions have been persistently challenged, assumption two – related to adults' experience – has prevailed. In fact, in addition to Knowles, many adult education scholars (e.g., Boud & Miller, 1996; Brookfield, 1987; Freire, 1970; Lindeman, 1961; Mezirow, 1981; Usher, Bryant, & Johnston, 1997) have emphasized the vital and complex role that experience plays in adult learning.

Unlike the theorists cited above, Knox (1977) carried out research on adults' learning and concluded: (1) adults learn continually and informally as they adjust to role changes and other adaptations; (2) adults' learning achievements are modulated by

individual characteristics; (3) adult learning is affected by the learning context (physical, social, and personal) as well as by the pace of learning. Another finding reported by Knox (1977) indicated that prior learning experience had the potential to enhance or interfere with new learning. In addition, older adults were able to learn most effectively when they set their own pace and took periodic breaks (summarized in Brookfield, 1986, p. 28).

Brundage and Mackeracher (1980) identified 36 adult learning principles. Some of these principles included: adults are able to learn throughout their lifetimes; adults' past experience can be a help or hindrance to learning; adults with positive self-concepts are thought to be more responsive to learning; environments that reinforce the self-concepts of adults, support change, and value the learner produce the greatest amount of learning. Based on their beliefs about adults, these authors advocated for voluntary participation in education, regular and positive feedback on progress, self-pacing, and collaborative modes of teaching and learning (summarized in Brookfield, 1986, pp. 29-30).

Smith (1982) made six general observations concerning the nature of learning: It is life long, it is personal, it involves change, it is partially a function of human development, it pertains to experience, and it is partially intuitive. In addition, Smith claimed that adults exhibit four essential characteristics – they have multiple roles and responsibilities; they have accumulated many life experiences; they pass through a number of developmental phases that require the reinterpretation of past experience, and they experience anxiety and ambivalence in their orientation to learning. These four

characteristics indicate certain conditions for learning. For example, adults learn best when they feel the need to learn and when they have responsibility for what, why, and how they learn. Because adults use experience as a resource in learning, the learning content and process must have a meaningful relationship to past experience. What is to be learned should be linked to the individual's developmental changes and life tasks. The learning method used will affect the degrees to which adults exercise autonomy. Finally, adults will generally learn best in an environment that is non-threatening and supportive of experimentation and in which different learning styles are recognized (summarized in Brookfield, 1986, pp. 30-31).

Darkenwald and Merriam (1982) developed a list of eight principles of learning derived from learning process research. The principles are: adults' readiness to learn depends on the amount of their previous learning; intrinsic motivation produces more pervasive and permanent learning; positive reinforcement is effective; the material to be learned should be presented in some organized fashion; learning is enhanced by repetition; meaningful tasks and material are more fully and easily learned; active participation in learning improves retention, and environmental factors affect learning (summarized in Brookfield, 1986, p. 31).

Brookfield (1986) offered six principles that underlie effective facilitation of learning: voluntary participation by adult learners, mutual respect between learners and facilitator, collaboration among all group members (learners and facilitator), praxis (the alternating process of reflection and action), critical reflection (the fostering of a healthy

skepticism), and self-direction (helping learners become more self-directed in their learning).

Brookfield's work on critical reflection is sometimes viewed as an early example of constructivism in adult education (Pratt & Nesbit, 2000). Constructivism is commonly associated with Piaget, Bruner, and Vygotsky, rather than with adult educators. However, in the 1980's adult educators began experimenting with constructivism in their classrooms. While there is no single constructivist approach, in general, constructivists hold several assumptions about learning: (1) knowledge is constructed by individuals as they attempt to make sense of their experiences; (2) learners are not empty vessels waiting to be filled but rather are active organisms seeking meaning; (3) learners develop and test mental structures until a satisfactory one appears; (4) learners test their new understandings against those of others, particularly those of teachers and more advanced peers (Driscoll, 1994). Based in these assumptions, constructivists focus on learner-centered education (Barr & Tagg cited in Pratt & Nesbit, 2000); emphasize higher order goals (e.g., cognitive flexibility, reflective criticism, and critical thinking); create a collaborative environment where learning can be socially constructed, and provide the necessary scaffolding to support learners who need it (Driscoll, 1994).

Jarvis (1987) believed that all life experiences hold the potential for learning to occur but observed that some experiences result in learning and others do not. His model of the learning process identifies nine possible responses to experiences. The first three responses – presumption, non-consideration, and rejection – do not lead to learning. The next three responses – preconscious, practice, and memorization – are non-reflective

learning. The last three – contemplation, reflective practice, and experimental learning – are the "higher forms of learning" (Jarvis, 1987, p. 27) and call for involvement.

The literature also described the theory of transformational learning which has become the dominant learning theory of adult education in the past decade (Merriam & Caffarella, 1999). This theory centers on the cognitive process of learning and is closely linked to models of critical thinking. In brief, the theory is about how adults interpret their life experience and involves three phases: "critical reflection on one's assumptions, discourse to validate the critically reflective insight, and action" (Mezirow, 1997, p. 60). In practice, the most common elements of the transactional process are collaboration (all participants are engaged in assessing needs, setting objectives, selecting appropriate methods and materials, developing evaluation procedures, and participating), support, respect, freedom, equality, critical reflection, critical analysis, challenge, and praxis (Galbraith, 1991, p. 3).

The literature also described adult educators' most recent understanding of adult learning. This "sociocultural" (Pratt & Nesbit, 2000, p. 121) perspective challenges many of the previously-held beliefs about learning. Whereas earlier theories focused on the individual learner's psychological development, this theory focuses on social, cultural, and political roles. Learning is viewed as a social process with individuals interacting within a group and gradually taking on the perspectives and goals of others in the learning community. Participation in the group thus shapes how people think, value, and act (Pratt & Nesbit, 2000). Educators who subscribe to the sociocultural perspective focus on cultural and political issues, concentrate on teaching and learning with diverse

populations, and "examine the structures of power, privilege, and voice" (Ewert & Grace, 2000, p. 341). Of key importance is the answer to the question, Whose authority and knowledge are legitimate and transmitted (Giroux, 1992)?

Learners' motivation to learn is another concern of adult educators. Wlodkowski (1999) argued that there are six major factors that have a substantial impact on learner motivation: attitude, need, stimulation, affect, competence, and reinforcement. To enhance learners' motivation in these six areas, instructors can employ motivational strategies that are classic in their relationship to the instruction of adults. Some of these strategies are: (1) Make learning goals and criteria of evaluation as clear as possible. (2) Plan activities to allow adults to share what they have learned and produced. (3) Provide variety in the processes and materials used for learning. (4) Use disequilibrium to stimulate learner involvement. (5) Make abstract content more personal and familiar. (6) Use cooperative goal structures to achieve learning outcomes. (7) Provide consistent and prompt feedback to learners regarding their performance and mastery in learning tasks. (8) Use positive reinforcers.

While much of the literature on adult learning theory is "speculation" (Brookfield, 1986, p. 33), two instruments – the Principles of Adult Learning Scale (PALS) and the Andragogy in Practice Inventory (API) – were developed to measure the degree to which these principles were exemplified in actual settings. The first instrument, PALS, was designed by Conti (1978) whose research indicated that "the curriculum should be learner centered, that learning episodes should capitalize on the learner's experience, that adults are self-directed, that the learner should participate in needs diagnosis, goals formation,

and outcomes evaluation, that adults are problem centered, and that the teacher should serve as a facilitator rather than as a repository of facts" (Conti, 1983, p. 63).

The second instrument, the API, was designed to examine the self-directedness of adult learners (Suanmali, 1981). Research findings suggested that educators can best help adult learners function as self-directed learners by: (1) progressively decreasing the learner's dependency on educators; (2) helping the learner understand how to use learning resources, especially the experiences of others, and how to engage others in reciprocal learning relations; (3) assisting the learner in defining his/her learning needs; (4) organizing what is to be learned in relationship to the learner's current problems, concerns, and levels of understanding; (5) fostering learner decision-making through the selection of materials and activities; (6) facilitating problem-posing and problem-solving; (7) reinforcing the self-concept of the learner; (8) emphasizing experiential, participative, and projective instructional methods; and (9) appropriately using learning contracts and modeling (pp. 31-32).

Manley (1984) and James (1983) also conducted research using Delphi investigations to investigate what practitioners and professors of adult education regard as exemplary principles of practice that facilitate adult learning. Manley's review of the literature coupled with her survey of 18 members of the American Commission of Professors of Adult Education resulted in the following cluster of categories: adult learning is best facilitated when learners are engaged as participants in the design of learning, when they are encouraged to be self-directed, when the educator functions as a facilitator rather than didactic instructor, when individual learners' needs and learning

styles are taken into account, when a climate conducive to learning is established, when learners' past experiences are utilized in the classroom, and when learning activities are deemed to have some direct relevance or utility to the learners' circumstances (summarized in Brookfield, 1986, p. 37).

Finally, James (1983) devised nine basic principles of adult learning that emerged from a review of articles, research reports, dissertations, and textbooks on adult learning. The principles are: (1) adults maintain the ability to learn; (2) adults are a highly diversified group of individuals with widely differing preferences, needs, backgrounds, and skills; (3) adults experience a gradual decline in physical/sensory capabilities; (4) experience of the learner is a major resource in learning situations; (5) self-concept moves from dependency to independency as individuals grow in responsibilities, experience, and confidence; (6) adults tend to be life-centered in their orientation to learning; (7) adults are motivated to learn by a variety of factors; (8) active learner participation in the learning process contributes to learning; and (9) a comfortable supportive environment is a key to successful learning (summarized in Brookfield, 1986, p. 38).

To summarize, a synthesis of the literature on adult learning theory indicated: adults learn throughout their lives; their life experiences are the immediate causes and motives for their learning; they exhibit diverse learning styles and are more successful when learning occurs in a safe environment and is self-paced. As a rule, adults prefer learning activities that are problem-centered and meaningful to their life situation, and they want the learning outcomes to have some immediacy of application. Past

experiences of adults affect their current learning, sometimes serving as an enhancement and sometimes as a hindrance. Effective learning also is linked to self-concept as a learner. Finally, adults exhibit a tendency toward self-directedness in their learning.

These conditions of adult learning and characteristics of adult learners have tremendous implications for the development of critical thinking skills as shown in the next section of this chapter.

Instructional Methods

> *"There is little, if any, evidence of the long-term impact of instruction in critical thinking . . . we do not learn what specifically makes these students better thinkers and in what specific ways they can still improve . . . more finegrained information on the effects of particular teaching strategies will have to be sought."*
>
> (Norris, 1985, pp. 44-45)

Critical thinking requires instruction; it does not develop on its own (Beyer, 1987; Halpern, 1994). It is assumed that if teachers use appropriate instructional methods and curriculum materials, students will improve their critical thinking skills (Young cited in McMillan, 1987). Yet educators continue to struggle to discover instructional strategies that have a positive impact on students' critical thinking skills.

What is known about teaching critical thinking in adult education comes primarily from theorists. Research regarding critical thinking has been unable to explain clearly how critical thinking is best developed in individuals. Theory about how adults learn has important implications for facilitating the development of critical thinking skills in adults. For purposes of discussion, components of adult learning theory that have a bearing on the development of critical thinking have been grouped into four major nonequivalent categories: experiential learning, self-directed learning, collaborative learning, and

facilitator variables. By using this self-made classification system, I was able to include the instructional methods most frequently cited in the literature as useful for the development of critical thinking skills. It should be noted, however, there is considerable overlap and interaction among the categories. For example, several techniques described under the umbrella of experiential learning are used in both self-directed and collaborative learning modes.

Experiential Learning Methods

Adult educators, in general, agree with Knowles (1980) that adults' experiences are a rich resource for learning. Feuer and Geber (1988) and Paul (1992) among others advocated for participatory, learner-centered techniques that draw on learners' experiences. Lanese (1983) and Merriam and Caffarella (1999) encouraged adult educators to use the experiences of adults as the primary curriculum in adult education classes.

While adult educators are in agreement that experiential techniques are effective with adult learners, they also recognize that no one instructional strategy or method can be effective for all learners or all learning goals. They insist facilitators of adult education must have a broad repertoire of instructional methods and be able to choose the most appropriate method as determined by the total teaching-learning situation, that is, the learning objectives, learner preferences, teacher preferences and skills, and contextual variables such as time constraints, physical setting, and size of the learner group (Farrah, 1998; Hayes, 1993).

The literature described several instructional strategies for helping learners use their experience to enhance learning, including discussion, simulations, case studies, and critical incidents. These methods will be described in the next section of this chapter. In addition, lecture, though not considered an experiential technique, is described here because creative types of lecture (particularly participatory lecture) are effectively used in conjunction with other experiential strategies for helping learners focus on their life experience. It should also be noted that each instructional method described in this section of the literature review is treated as a discrete strategy even though there is considerable overlap among them. Further, several of the methods clearly fit under more than one category. For example, critical incidents can be used as a strategy for self-directed learning or for collaborative learning. In cases where a method could fit in two or more categories, an arbitrary decision was made, and the method is described where it appears to fit most logically.

Discussion. Discussion has been recognized as the adult education method par excellence (Brookfield, 1986, 1990a; Houle, 1972; Knox, 1986; Lindeman, 1926) and one of the key ways to foster learners' critical thinking skills (Brookfield, 1987). Discussion works well for achieving certain cognitive and affective results, mainly those of problem solving, concept exploration, and attitude change. Particularly effective is the use of discussion for exposing learners to a diversity of perspectives on an issue, helping learners externalize the assumptions underlying their beliefs and actions, helping learners see the world as others see it, and introducing learners to the complexity and ambiguity in issues (Brookfield, 1998).

To facilitate discussion, adult educators should personalize discussion topics by connecting learners' personal lives with the wider world, using a diversity of approaches, and judging the effectiveness of discussion not by learner satisfaction but by the extent to which it encourages people to think critically (Brookfield, 1998). Requisite skills for sustaining discussion include questioning, listening, and responding (Brookfield & Preskill, 1999). If properly implemented, discussion should result in a collaborative, challenging, reflective, transforming, and democratic process.

In support of the theoretical assumptions about discussion, McKeachie (1970) cited seven studies that demonstrate discussion classes are more effective than lecture classes in promoting retention and higher level thinking. Dixson (1991) also reviewed the effects of group discussion and concluded this method is highly conducive to the development of students' critical thinking skills.

Simulations. Simulations are particularly beneficial for developing critical thinking skills since they help people identify, investigate, and challenge long held assumptions that influence their thought and actions. Like the discussion method, simulations have the capacity to get adults involved cognitively as well as emotionally (Gilley, 1998). Particular advantages of using simulations are that learners are active participants in the learning process rather than passive recipients of information, and feedback is immediate. However, sensitive and skillful facilitation and debriefing are required if simulations are to achieve their purpose (Cranton, 1994).

Examples of simulations are role plays, role reversals, computer simulations, educational games, and in-basket exercises (Gilley, 1998). Role plays are perhaps the

most frequently used type of simulation. Like discussion, role plays help learners "integrate the cognitive and affective dimensions of their learning" (Brookfield, 1987, p. 104). In addition, role playing is a useful strategy with diverse adult learners because it can accommodate flexible and learner-centered perspectives (Wlodkowski, 1999). Another type of simulation, role reversal, is an effective technique for helping learners question their own perspectives and consider different ways of knowing (Brookfield, 1987; Meyers & Jones, 1993; Wlodkowski, 1999). Brookfield (1987) described crisis-decision simulations as another way to provoke learners to make their values explicit and to see their values from others' perspectives.

Despite the perceived benefits of simulations, few empirical studies have been reported on this instructional method. However, McKeachie's (1970) review of research studies indicated that variables such as simulation as well as programmed learning and independent study were found to be unrelated to critical thinking outcomes.

Case studies. Through the case study process, learners have opportunities to review an open-ended dilemma, research the facts of the case, identify possible solutions, and present recommendations for action. The pattern of learning moves from analysis and reflection to development of possible solutions and then to the application of strategies to learners' individual situations (Wlodkowski, 1999). According to Galbraith and Zelenek (1991), conditions necessary for effective case studies are a "provoking case" (p. 122), in-depth preparation by the facilitator and participants prior to discussion, "critical discussion" (p. 124) by the group following the case presentation, and debriefing and refining of the case.

Several benefits of the case study cited in the literature indicate the usefulness of this method in the development of critical thinking skills. First, the case simulates the real world. "The theory is that the closer the learners are to real-life conditions, the more likely it is that they will develop abilities actually needed outside the classroom" (Marsick, 1998, p. 216). Second, case study emphasizes practical thinking (Marsick, 1998) enabling participants to review information needed for critical decision making (Galbraith & Zelenak, 1991). Third, the case method is participatory in nature (Marsick, 1998), and the more learners are involved in doing rather than observing, the more likely they will be influenced by the experience (Cranton, 1994). Fourth, the case method is collaborative in nature, encouraging learners to weigh a wide range of viewpoints (Galbraith & Zelenak, 1991; Marsick, 1998; Wlodkowski, 1999). Because the dilemmas presented are open-ended, they tend to stimulate a variety of reactions from participants (Wlodkowski, 1999). Fifth, the case study enhances reasoning skills, particularly analysis and synthesis (Galbraith & Zelenak, 1991; Marsick, 1998). Finally, the case method promotes self-direction in learning (Romm & Mahler, 1986) because although participants are given background data, they must acquire additional information independently (Galbraith & Zelenak, 1991).

Critical incidents. The critical incident has become a popular adult education activity. Through the critical incident technique, learners can make critical assessments of their assumptions and actions and begin to consider alternatives to them (Galbraith & Zelenek, 1991). To conduct a critical incident exercise, the facilitator prompts participants to identify an incident that was particularly meaningful to them and then

describe certain elements suggested by the facilitator (Brookfield, 1998; Cranton, 1994; Wlodkowski, 1999). An example of a critical incident would be, At what moment in class this week were you most engaged (or distanced) as a learner (Brookfield, 1998)?

As a technique for developing critical thinking, the primary advantage of the critical incident is its focus on personal experience rather than on abstract concepts (Brookfield, 1987, 1990c; Cranton, 1994). Another advantage is that critical incidents can be used privately, thereby protecting the anonymity of individuals who do not wish to discuss problems in front of their peers (Brookfield, 1987). A third benefit is that the critical incident can help facilitators be more responsive as instructors by viewing the learning experience through the learners' perspectives, building trust, and using findings to improve curriculum, instruction, environment, or other identified problems (Wlodkowski, 1999). Yet another benefit is that the critical incident is a way for facilitators to model critical thinking and thus earn the right to ask students to engage in critical thinking, too (Brookfield, 1998).

Follow up of the critical incident is perhaps more important than the incident itself, particularly if the purpose is to develop critical thinking skills (Cranton, 1994). Seeing the incident through the eyes of others often helps learners critically reflect on their own underlying assumptions.

Lecture. Lecture, when used judiciously, is "a legitimate instructional method for use by adult education practitioners" (Farrah, 1998, p. 143).

> Learning can be facilitated through oral exposition and illustration without violating the basic principles of effective facilitation such as acknowledging the educational value of the learners' rich life experiences, fostering a sense of self worth, supportively challenging ways of thinking and believing, and encouraging

> critical reflection and application as well as active participant involvement. (Farrah, 1998, p. 143)

Despite the oft-cited limitations of lecture, lecture is a prudent choice when the learning goal is cognitive (information) transfer, when the information to be transmitted is not readily available, when an expert has current information that is needed immediately or in a short period of time (McKeachie, 1986), and for introducing complex or technical information or concepts unfamiliar to learners (Brookfield, 1990c). Another advantage of the lecture is that it provides opportunities for learners to see the lecturer think out loud, a type of modeling which is beneficial for development of critical thinking skills (Brookfield, 1987; Farrah, 1998). The lecture also might be used to develop critical thinking skills by challenging the beliefs, attitudes, and behaviors of learners or stimulating learners to further inquiry. Perhaps the crucial test of the value of lecture is whether or not it "animates students' critical thinking" (Shor & Freire, 1987, p. 40).

Many limitations of lectures can be overcome by providing for more active involvement by the learner (Verner & Dickinson, 1967). For example, by alternating mini-lectures (15-20 minutes in length) and discussions, the lecturer shifts the energy back and forth between the instructor and learners (Frederick, 1986). Lecturers also can intersperse questions throughout the lecture, asking learners to write a response or exchange verbal responses with individuals around them. Learners also could be encouraged to submit questions (directly or anonymously) to the lecturer or share their questions in small groups (Brookfield & Preskill, 1999), a technique that not only increases learner involvement but also requires the learner to process the content (Farrah, 1998).

Brookfield and Preskill (1999) argued that lectures provide opportunities to model the types of dispositions, including critical thinking, they wish to encourage in students. Their suggestions for modeling critical thinking include: (1) begin every lecture with a series of questions that you are trying to answer, thereby suggesting that education is a never-ending process of inquiry; (2) end every lecture with a series of questions, thereby indicating there is no definite truth and the subject is open to further study; (3) deliberately introduce periods of silence, thereby encouraging reflection on the subject; (4) deliberately introduce alternative perspectives in order to prepare students for diversity of viewpoints; and (5) introduce buzz sessions into lectures, allowing students to discuss a question or issue that arose out of the lecture. Finally, Brookfield and Preskill (1999) recommended introducing "assumption hunting" (p. 49). This technique ties together lecture, modeling, and components of critical thinking. With this method, the lecturer introduces assumption hunting into the lecture, then spends a few minutes musing aloud about the assumptions on which the lecturer's beliefs rest. The purpose of this modeling is to prepare students for scrutinizing their own assumptions.

Verner and Dickinson's (1967) literature review of research on lecture over a 50-year period revealed that: (1) lecture is most suited to the transmittal of information for immediate recall; (2) a short (less than 30 minutes) carefully constructed lecture with meaningful examples, frequent summaries, simple language, and appropriate speed of delivery is most effective; (3) the specific learning task determines whether or not lecture is the appropriate method; and (4) augmenting the lecture with other instructional

methods and devices facilitates learning. A follow-up study by Oddi (1983) confirmed the appropriateness of lecture when the learning task is acquisition of knowledge.

Empirical studies of the lecture method yielded mixed results. Allen (1995) found the lecture format, when followed by other instructional methods such as in-depth discussion of a case, was effective in improving critical thinking skills. On the other hand, McKeachie (1970) cited seven studies to demonstrate lecture classes are less effective than discussion classes in promoting and retaining higher level thinking.

Summary of experiential learning methods. The theoretical literature affirmed that adults' life experiences are rich resources for learning. Facilitators can help learners use their experience to develop critical thinking skills. The experiential methods described in the preceding sections of this review of literature – discussion, simulation, case studies, and critical incidents – have much in common. They are learner-centered; they focus on "real life" experiences, and they are collaborative in nature. Lecture, not usually considered an experiential method, shares some of these characteristics – particularly if the lecture is participatory. Ultimately, these methods can be used to help adults examine their long-held assumptions and view their experiences from the perspectives of others; in other words, think critically.

However, the efficacy of using experiential methods to foster development of critical thinking in adult learners remains unknown. Only one research study related to teaching critical thinking in adult education was uncovered. A descriptive study (Vaske, 1998) indicated that adult educators reported frequent use of small groups (85.1%) and discussion (79.1%) and occasional use of role plays (62.1%), simulation (57.6%), games

(55.4%), critical incidents (53.7%), case studies (52.2%), and lecture (65.7%). The effectiveness of these methods on the development of thinking skills was not examined.

Self-Directed Learning Methods

> *"The learner of the future will be highly competent in deciding what to learn and planning and arranging his own learning. He will successfully diagnose and solve almost any problem or difficulty that arises. He will obtain appropriate help competently and quickly, but only when necessary."*
> (Tough, 1979)

One of the goals of adult education is to help move learners toward increased independence, autonomy, empowerment, and self-direction (Brookfield, 1986; Knowles, 1975; Mezirow, 1985). In fact, the concept of self-directed learning has permeated theory and practice to such an extent that it is almost equated with adult education (Cranton, 1994). Despite challenges to the theory (see Brookfield, 1986, 1993; Candy, 1991), many treat self-directed learning as a fact and structure their practice accordingly (Knowles, Holton, & Swanson, 1998; Merriam & Caffarella, 1999).

Although the first comprehensive description of self-directed learning was provided by Tough (1967, 1971), the concept is usually associated with Knowles (1970, 1980) whose thinking about self-directed learning is grounded in his concept of andragogy. Knowles assumed that "Adults have a concept of being responsible for their own lives . . . they develop a deep psychological need to be seen by others and treated by others as being capable of self-direction" (Knowles, 1989, p. 83). From Knowles' perspective, learners are highly motivated, know what they want to learn, and have the skills to set their own objectives, find resources, and evaluate their progress in meeting their objectives. However, Knowles (1975, 1980) acknowledged that learners move

toward self-directedness at differing rates and may not move toward self-direction in all dimensions of life.

Since Knowles (1970) first wrote about self-directed learning, many interpretations of the concept have emerged. Brookfield (1986) disagreed with Knowles' (1970) understanding of self-directedness, maintaining it is unrealistic to claim all adult learners are self-directed for several reasons. First, no act of learning is fully self-directed. Second, not all learners are ready for self-directed learning. There are many factors that individuals weigh in choosing whether to behave in a self-directed way, including: learning style, previous experience with the subject matter, social orientation, efficiency, previous learning socialization, and locus of control (Knowles et al., 1998). Third, self-direction may not be the preferred mode of learning in all cases for all adults. For example, Grow (1991) argued that self-directed learning is situational, and the facilitator's job is to match styles with the student. He proposed four stages in students' learning autonomy: dependent, interested, involved, and self-directed. Corresponding roles for "teachers" included authority/coach, motivator/guide, facilitator, and consultant/ delegator. Wlodkowski (1999) concluded that as an instructional approach, self-directed learning "may need to be more often negotiated as an option than mandated" (p. 11).

The research findings on self-directed learning are confusing and contradictory, and many of the models of self-directed learning remain untested (for details, see Merriam & Caffarella, 1999).

The next section of this review of literature describes three strategies for developing critical thinking skills through the use of self-directed learning: praxis – with

particular attention to reflection – journal writing, and learning contracts. Praxis, reflection, and journal writing are included here because, if used appropriately, they encourage introspection which can lead to increased self-directness, autonomy, and empowerment. However, these strategies also would fit comfortably in other sections of this literature review. Learning contracts, covered later in this section, address the process of self-directed learning.

Praxis. One of the most frequently espoused principles of effective practice in teaching adults is that of praxis which involves the continuous alternating process of reflection and action (Brookfield, 1986). Schön (1987) called this process "reflection-in-action" (p. 26). Essential to praxis is the opportunity for reflection on experience, so that learning is informed by real life contexts (Brookfield, 1991). While a balance of reflection and action is desired, in reality the action component of praxis is given far more emphasis than that of reflection (Brookfield, 1991). In fact, there is often little chance for learners to reflect on their past experiences or to attempt to connect new ideas to previous experience. Brookfield claimed the "mulling over" (p. 45) period is largely neglected. Still, the primary consequence of fostering praxis is the development of critical thinkers who can identify the assumptions under which they think and act and explore alternatives (Brookfield, 1987).

To bridge the gap between reflection and action, Galbraith (1991) recommended using strategies such as critical questioning, critical incident exercises, mentoring, coaching, practicums, role plays, debates, critical analysis, modeling, and case studies. Of these strategies, role plays, case studies, and critical incidents were described

previously as experiential techniques. In the upcoming section titled Facilitator Variables the techniques of modeling, questioning, and mentoring will be described. As stated earlier, the technique of reflection (along with journal writing and learner contracts) will be discussed here as self-directed learning strategies.

Reflection. Reflection is an essential component of critical thinking (Brookfield, 1987; Candy, 1991; Clarke, 1995; Darkenwald & Merriam, 1982; Dewey, 1933; Facione, 1990; Kerka, 1992; McPeck, 1981; Mezirow & Associates, 1990). In fact, Ennis (1985) defined critical thinking as "reasonable reflective thinking" (p. 54). Darkenwald and Merriam (1982) described critical reflection as one of the preferred methods of adult education and emphasized that opportunities for reflection should include discussion, questions, and collaborative exploration of differing viewpoints.

Reflection consists of cognitive and affective activities in which individuals engage in order to interpret their experiences and create meaning (Boyd & Fales, 1983; Boud, Keogh, & Walker, 1985; Dewey, 1933; Mezirow, 1991). The cognitive aspect of reflective learning is revealed in its definition: "the process of internally examining and exploring an issue of concern, triggered by an experience which creates and clarifies meaning in terms of self and which results in a changed conceptual perspective" (Boyd & Fales, 1983, p. 100). Candy (1991) added that there are many ways to reconcile new learning with existing views of knowledge. Reflection is one of those ways. The dispositional aspect of reflection is claimed by Harris (1990) who described reflection as "socially conditioned and affective in nature" (p. 113). The outcome of these activities is

"a change in assumptions about oneself and the world" requiring "a corresponding change in one's behavior and relationships" (Schlossberg, 1981, p. 5).

Two types of reflection were described in the literature – reflection-on-action and reflection-in-action. Reflection-on-action involves thinking through a situation after it has happened, re-evaluating the experience, deciding what could be done differently, and then trying out the new behavior. Some of the instructional methods used to engage learners in this process include critical incidents (Cranton, 1994), portfolio development, journal writing, and critical reflection (Merriam & Caffarella, 1999).

In contrast, reflection-in-action shapes "what we are doing while we are doing it" (Schön, 1987, p. 26). Schön (1987) pointed out that critical reflection is much more than a purely cognitive process of analysis and involves intuition, improvisation, and creativity. This process is useful when individuals are faced with a crisis or unanticipated event and their previous strategies no longer work.

The goal of reflection, ultimately, is to help adults become more self-directed in their learning. In addition, critical self-evaluation can lead to social and personal change (Cranton, 1994). Self-reflection can be fostered by on-going introspective questioning, experimentation, discussion with peers, consultation with and observation of others, working with a mentor, and obtaining feedback (Cranton, 1994). Facilitators can be especially helpful in this process by helping learners interpret and question ideas and actions from a new viewpoint (Brookfield, 1987).

Several empirical studies investigated the importance of reflection on learning. Boyd and Fales' (1983) qualitative analysis of data from questionnaires, interviews, and

their own experience emphasized the importance of reflection in learning from experience. Logan's (1987) analysis of the results of sixteen case studies of professional development activities reinforced the value of reflection and the importance of teachers' experiences to learning. Certo (1977) concluded that "experiential exercises and reflection on these experiential exercises seem to be the most effective instructional activities within the experiential learning process" (p. 23). Finally, Cowan (1991) stressed the importance of devising problem solving activities that call for reflection on what the learner is doing, testing those reflections against the reality of ongoing experience and focusing on the process of learning.

The use of reflection as a method for enhancing critical thinking skills was investigated in ethnographic studies by Clarke (1995) and Gipe and Richards (1992). Findings from both studies supported the assumption that reflective thinking helps improve teaching ability.

Adult educators participating in an exploratory study of critical thinking (Vaske, 1998) agreed that critical thinking is "reasonable reflective thinking" (Ennis, 1985, p. 54). In addition, 77.2% of respondents reported using reflection frequently, and 21.2% reported occasional use of reflection as an instructional method to improve students' thinking skills.

Journal writing. Historically, journals have been used as a means of self-expression, especially for conveying thoughts and feelings for which the writer has no other outlet (Cranton, 1994). In education, journals have been used as a valuable source of information about how adults experience learning (Brookfield, 1991), to document risk

and experimentation with ideas, and as a complement to more conventional forms of assessment (Wlodkowski, 1999).

To stimulate critical thinking through journal writing, facilitators must generate questions that cause the student to reflect on the process, content, and outcomes of the learning experience (Guenter, 1994). Brookfield (1991), referring to these writings as "learning journals" (p. 37), believed their chief advantage is that they provide an immediate and direct recounting of learners' experiences of learning.

Two strategies related to encouraging critical reflection through journal writing were advocated by Cranton (1994). First is the dialogue journal. According to this technique, the journal is regularly shared with another person (educator or peer) who responds to journal entries with comments and critical questions intended to stimulate further reflection. The second strategy is the use of self-analysis. With this technique, the last section of the journal contains the writer's analysis of content patterns and themes as well as changes in opinions, thinking, or feelings (Cranton, 1994).

If journals are to be an effective strategy for developing learners' critical thinking skills, the purpose of journal writing must be understood (Brookfield, 1991; Cranton, 1994) and agreed upon (Cranton, 1994), and the role(s) of the facilitator must be clearly delineated and understood (Gifford, 1993).

Findings from a recent descriptive study (Vaske, 1998) indicated that less than half of the adult educators who responded to the survey (48.5%) used journal writing as a method of fostering learners' thinking abilities.

Learning contracts. Learning contracts are reportedly the chief mechanism for encouraging adult learners to seek a higher degree of independence and self-directedness (Brookfield, 1986; Galbraith & Zelenak, 1991; O'Donnell & Caffarella, 1998). A learning contract is a formal agreement written by a learner which details what will be learned, how the learning will be accomplished, the period of time involved, and the specific evaluation criteria to be used in judging the completion of the learning (Knowles, 1986; O'Donnell & Caffarella, 1998). It is designed to individualize the learning process and is a viable option when there is diversity of learner needs and interests, when the goal is to help learners gain skills in learning as well as content, and when the educator has the freedom to allow openness (O'Donnell & Caffarella, 1998).

Learning contracts, introduced into adult education by Knowles (1975), place responsibility and control of the learning on the learner. The learning contract process, grounded in the belief that adult learners are diverse, takes into account differences in learning styles, personal and social backgrounds, and paces of learning. This approach reinforces the commitment, accountability, and motivation to follow through on the learning situation (Smith, 1982). The learning contract process allows for collaboration, challenge, critical reflection, and praxis to be incorporated into the educational encounter (Galbraith & Zelenak, 1991). Learners can construct all, most, or part of the contract (O'Donnell & Caffarella, 1998) depending on the learner's and teacher's knowledge of the subject matter, the resources available, and restrictions of the program. For example, what is learned (the objective) may not be negotiable, but how it is learned may be wide open to individual discretion (Wlodkowski, 1999).

Four advantages of the learning contract were cited in the literature: the flexibility of the approach makes it suitable for many and varied learning experiences; the learner is in control of the learning process; contract learning allows the development of instructional design skills by the learner, and learners like the approach (O'Donnell & Caffarella, 1998, p. 281). Limitations of the learning contract include: discomfort with the unknown (Brookfield, 1986; O'Donnell & Caffarella, 1998), quality of the learning, time pressures, and lack of suitability for some learning situations (O'Donnell & Caffarella, 1998). Another limitation is that the ability to write contracts is a learned skill, not an innate ability, and facilitators must spend considerable time helping students focus on realistic and manageable activities (Brookfield, 1986).

Formal research on the use of learning contracts as an aid to self-directedness is still sparse, and more research is needed in order to evaluate the effectiveness of this approach to teaching and learning (Brookfield, 1986; O'Donnell & Caffarella, 1998). However, two studies of self-directedness conducted at the graduate level of adult education are relevant to this study. First, Kasworm (1982) found that students enrolled in a self-directed course evaluated the course more favorably, had an increased awareness of themselves as self-directed learners, and valued the use of peer learning resources. However, many expressed anxiety at the lack of external direction, and some (approximately one-fourth) stated they would not choose another course using the self-directed format. Second, Caffarella and Caffarella (1983) found that readiness for self-directed learning did not alter as a result of using contracts in a graduate course. In addition, the use of learning contracts had an effect on only three of twelve self-directed

competencies – translating needs into objectives, identifying resources appropriate to achievement of those objectives, and selecting effective learning strategies.

Summary of self-directed learning methods. The goal of self-directed learning is to move learners toward increased autonomy and empowerment. Praxis, reflection, and journal writing are instructional methods that can lead to enhanced critical thinking and greater self-directedness. Like the experiential methods described previously, these methods are learner-centered and focus on "real life" experiences. In addition, they individualize the learning process. They differ from experiential methods, however, in their degree of collaboration. While these self-directed learning strategies may engage others (e.g., reflection may be followed by discussion with and observation of others; journals may be shared with another person), they also can be employed solely by the individual learner. One of the primary ways that facilitators can foster self-directedness is through learning contracts. With contract learning, the learner controls all or part of the learning process.

Few empirical studies related to the purpose of this study were found. More research is needed to determine the efficacy of reflection, journal writing, and learning contracts for developing adult learners' critical thinking skills and dispositions.

Collaborative Learning Methods

While a large share of self-directed learning tends to be concerned with skills acquisition (e.g., contract learning), collaborative learning tends to focus on the exploration of ideas and opinions and in finding solutions to problems. Changes in

values, attitudes, and understandings are often the intended goals rather than the learning of subject content (Smith, 1982).

Collaboration consists of "people combining their efforts to help each other learn and to create something that is greater than the sum of their individual energies" (Brookfield & Preskill, 1999, p. 34). The emphasis is on using the experience and expertise of all members to accomplish group tasks and goals (Smith, 1982). This mode of learning can rekindle interest, increase commitment, and provide a change of pace from other types of learning activities (Smith, 1982). Despite the advantages of collaborative learning, opportunities to practice collaboration are rare due, in part, to time constraints, lack of ground rules for collaborative efforts, and a competitive grading system (Brookfield & Preskill, 1999).

For success in collaborative learning, the members need to be adept at planning, conducting, and evaluating group efforts. Requisite skills include sensitivity to group process as well as discussion leadership and participation skills (Smith, 1982). For example, group members need to listen respectfully and recognize contributions of others in the group, value silence and reflection, and place concern for the common good above immediate self-interest (Brookfield & Preskill, 1999). In short, collaborative learning requires members to be "constructively interdependent" (Smith, 1982, p. 45). Meeting personal learning needs requires helping others to meet their needs at the same time (Smith, 1982).

In collaborative classrooms, students and facilitators are co-learners. Facilitators have responsibility for teaching and modeling the social and communicative skills

necessary for collaboration (Brookfield & Preskill, 1999) and creating a climate of mutual trust and teamwork in which people feel accepted and free to disagree and take risks. Learners assume responsibility for exploring and interpreting course material and for learning and practicing interaction skills (Wlodkowski, 1999).

Three research studies investigated collaborative learning at the undergraduate level and obtained mixed results. Garside (1996) found no significant differences in results between traditional teaching methods compared with collaborative groups. Gokhale (1995) and Karabenick and Collins-Eaglin (1996), on the other hand, found that collaboration is beneficial to student learning.

Learning teams. The inquiry team method, introduced by Knowles (1975), is a process through which a group of learners addresses specific questions about a topic and takes full control and responsibility for discovering answers or solutions to them. Although the process is time consuming, the potential for increasing both self-directedness and collaboration is substantial. For example, individual team members work independently of each other, but at the same time individuals must rely heavily on their peer learning team for support, information exchange, stimulus through new ideas, and locating relevant resources (Brookfield, 1986).

Learning in teams is successful to the degree the following four conditions are present: (1) everyone shares in project development and evaluation; (2) freedom of expression is allowed; (3) group members possess the skills of joint inquiry and problem-solving; and (4) a diagnostic attitude toward processes is encouraged (Smith, 1982, p. 107).

The learning team, as an instructional method, is reliant on critical thinking processes and a combination of instructional strategies that facilitate the development of critical thought. For example, during the planning process, teams alternate between critical reflection and action (praxis). During presentation of solutions, teams often incorporate role playing and other simulation exercises and use critical incident exercises, case studies, and open discussion activities (Galbraith & Zelenak, 1991).

Learner networks. Learner networks are crucial for developing critical thinkers (Brookfield, 1987) and self-directed learners (Thiel, 1984). "Because identifying and challenging assumptions and exploring alternatives involve elements of threat and risk-taking, the peer support provided by a group of others also trying to do this is a powerful psychological ballast to critical thinking efforts" (Brookfield, 1987, p. 79). In support of this view, research indicates that working within a learner network is one characteristic of successful self-directed learning (Thiel, 1984).

A learner network is defined as "any sustained relationship among fellow learners either within a formal setting such as a course or an informal setting such as a self-help group" (Cranton, 1994, p. 196). Several strategies for facilitating participation in learner networks both inside and outside the classroom setting have been identified (Cranton, 1994). Learner networks can be fostered deliberately through classroom activities such as small group work, project teams, study partners, or peer teaching. Participation in learner networks outside the classroom setting also can be encouraged by the educator. In addition, facilitators can demonstrate the value of learner networks by: (1) modeling for students by participating in and referring to networks; (2) providing opportunities for

learners to share their networking experiences with the group; and (3) making explicit in group discussions the role of networks in providing support for the learning process (Cranton, 1994, pp. 198-199).

Facilitator Variables

Brookfield (1986) claimed the goal of facilitation was to foster a spirit of critical reflection and nurturance of self-directed, empowered adults. Empowerment is not just a product of critical self-reflection but also a prerequisite for beginning the process and an important component of continuing the questioning of basic beliefs and assumptions (Cranton, 1994). Educators can empower learners by relinquishing some of their position power, encouraging critical self-reflection, and including students in decision-making (Cranton, 1994).

Adult learning theory (see earlier section of this chapter) and research findings have described a variety of teacher characteristics and behaviors that impact the development of students' critical thinking skills. Some of these elements include general classroom behaviors, instructor modeling, mentoring, critical questioning, and the type of learning climate that is created and maintained. These variables are described under the umbrella of facilitator variables because they are largely directed, at least initially, by the facilitator.

General classroom behaviors. The results of research studies provide support for particular teaching behaviors. Classroom behaviors found to be positively related to gains in critical thinking included the degree to which faculty encouraged, praised, or used student ideas; the degree to which students participated in class; the cognitive level

of participation, and the degree of peer-to-peer interaction in the class (Smith, 1977). Other instructor variables with favorable impact on thinking skills included directing students' attention to important items and relations; actively involving students in class through both questioning and talking (Rissland, 1985), and use of multiple teaching activities (Strong, Silver, & Hanson, 1985). Chalupa and Sormunen (1995) found teacher behaviors that enhance the development of critical thinking include room arrangement, questioning style, verbal and nonverbal responses, metacognitive labeling, and modeling (of these, questioning and modeling are described below). Meyers (1986) recommended "reflective classrooms" marked by beginning each class with a problem and allowing silence for periods of creative reflection.

In a self-report study, students claimed that positive feedback from the instructor and application to real-world situations were useful for retention (Wilson, 1994). Students also responded favorably to frequent and quality interactions with the instructor, quality interactions with peers, and active involvement in class (Terenzini, Theophilides, & Lorang, 1984). Further, students claimed to benefit from active participation – asking questions, listening to responses from other learners (Heims & Boyd, 1990; Kreitlow, 1982) – as well as instant feedback and increased interaction with the teacher (Heims & Boyd, 1990).

Bandman and Bandman (1995) indicated that effective critical thinking programs are facilitated by educators who: provide opportunity for active practice in critical thinking components; couple critical thinking with real-world problems that adult learners will encounter (Norris, 1985); involve students in active participation and

reflection on the types of thinking being used; provide continual praise, encouragement, and reinforcement; encourage students to relate their thinking to problem recognition, hypothesis formation, conclusion checking, and attitude awareness; and provide opportunity for students to discuss, apply, and link concepts to their past experiences.

Modeling. Modeling has been described as one of the most effective means by which adults learn (Brookfield 1987, 1990c, 1991, 1994a, 1995, 1997; Brookfield & Preskill, 1999; Costa, 1984; Kurfiss, 1988; Merriam, 1984; and Meyers, 1986). Effective modelers are those who are accessible for interaction with learners, are open and authentic, and develop good rapport with learners (Brookfield, 1987; Cranton, 1994). In addition to these attributes, Brookfield (1987) listed clarity, consistency, and specificity while Cranton (1994) suggested that good role models display a love and enthusiasm for the subject area. Modeling strategies that can be used to help develop students' thinking skills are described in Brookfield (1987, pp. 242-254).

Adult educators (e.g., Brookfield, 1987; Merriam & Caffarella, 1999; Smith, 1982) endorsed modeling as a primary method of developing critical thinking skills which are complex and difficult to facilitate and learn. Brookfield (1987) argued that students learn to think critically by observing role models. Further, he claimed that adult educators must earn the right to ask students to think critically. One route toward earning this right is through modeling a readiness to engage in this kind of activity (Brookfield, 1997). Mott (1997) also challenged adult educators to "practice the reflection and critical thinking that we teach" (p. 5). Examples of facilitators' modeling metacognitive behavior include sharing their planning, giving reasons for their actions, admitting they

do not know an answer but designing ways to produce an answer, seeking feedback and evaluation of their actions from others, and being able to self disclose their own strengths and weaknesses (adapted from Costa, 1984, p. 62).

Wlodkowski (1999) suggested that peers, particularly former students, who have successfully modeled the expected learning activity, also could serve as models. The added benefit of peer modeling is that learners may come to believe that they, too, are capable of mastering difficult activities (Bandura, 1982).

A particular type of modeling known as cognitive apprenticeships is beneficial for developing critical thinking skills. Such apprenticeships begin with "deliberate instruction by someone who acts as model; it then proceeds to model-guided trials by practitioners who progressively assume more responsibility for their learning" (Farmer, Buckmaster, & LeGrand, 1992, p. 42). Successful cognitive apprenticeships share three elements; (1) they are based in appropriate real world situations that are grounded in learners' needs; (2) the modeler is the right person for the task; and (3) the learning process is effectively facilitated (Merriam & Caffarella, 1999). The desired outcomes of the process are that the learners have internalized the process so that they can solve the problem on their own and that learners are able to generalize what they have learned and apply it to new situations (Merriam & Caffarella, 1999).

Mentoring. Mentoring is "a unique one-to-one teaching and learning method that incorporates the basic elements of the transactional process – collaboration, challenge, critical reflection, and praxis" (Galbraith & Zelenak, 1991, p. 126). Mentoring encourages individuals to become critical thinkers by reinterpreting their personal,

professional, and political experiences and searching out alternative ways of thinking and acting. It is a method that insists that learners confront and wrestle with diverse viewpoints and perspectives if intellectual growth, change, and development are to occur (Daloz, 1988).

The three primary roles of mentors are to provide support, challenge, and vision to their protégés (Daloz, 1986). Mentors provide support by listening, giving structure (more at the beginning, then gradually tapering off), affirming the learner, and translating the unknown. Mentors challenge protégés by raising questions, inviting them to view the world from new perspectives, voicing alternative viewpoints, encouraging hypothetical thinking, and nudging learners toward self-directedness. Finally, mentors help learners identify their own visions by modeling a vision for them and helping them design a map for their journey (Daloz, 1986).

The mentor role tends to be more likely in longer-term interactions (Cranton, 1994) which may account for the relative absence of it at the adult education level where learners and facilitators may interact for short periods of time (e.g., one course, one seminar, one field experience).

Critical questioning.

"Thinking itself is questioning."
(Dewey, 1933)

Questioning is probably the most fundamental instructional methodology and is nearly always used in conjunction with other teaching methods (Sanders, 1998). Critical questioning, as contrasted with everyday questions, is designed to advance pedagogical purposes, including critical thinking. Critical questioning is a specific form of

questioning concerned with fostering reflection rather than eliciting information (Brookfield, 1987). Those who advocate critical thinking advocate critical questioning because good critical questioning creates a sense of disequilibrium, challenging learners to consider new ways of looking at the situation (Cranton, 1994).

"Skilled critical questioning is one of the most effective means through which ingrained assumptions can be externalized" (Brookfield, 1987, p. 92). However, care must be given to the type of questions asked. Sanders (1998) recommended posing higher order questions – directed to the levels of analysis, synthesis, and evaluation (Bloom's 1956 taxonomy) – to allow creativity and to foster critical thinking. Mezirow (1991) described three types of questions that encourage critical thinking and transformative learning – content reflection (what questions); process reflection (how questions), and premise reflection (why questions). Brookfield and Preskill (1999) named several types of questions that can be used to provoke critical thought: questions that ask for evidence, questions that ask for clarification, open questions, linking or extension questions, hypothetical questions, cause-and-effect questions, and summary and synthesis questions (pp. 87-90). Wlodkowski (1999) advocated the use of follow up probes to stimulate more thinking and dialogue.

Brookfield (1987) posited three requirements of effective critical questions: be specific – relate questions to events, situations, people, and action; work from the particular to the general – find and express the general themes underlying learners' responses to specific questions; and be conversational – avoid the use of academic jargon and describe ideas and experiences in an informal way.

Questions should require the learner to take an active, reflective role in learning (Wlodkowski, 1999). Students, as well as facilitators, should ask critical questions. Knowles (1980) claimed that being able to formulate questions that are based on one's curiosities and that are answerable through inquiry is an important competency. Concerned about the quality of students' questions, King (1994) developed and tested an instructional procedure, based on Bloom's (1956) taxonomy, for helping postsecondary learners pose their own thought-provoking questions. The facilitator presents learners with a set of questions or question starters which learners use as guides to develop their own questions pertaining to the material. The question stems are linked to critical thinking processes such as application, prediction, hypothesizing, analysis, synthesis, and evaluation. Once learned, this procedure becomes a thinking strategy that students can use either on their own or in groups (King, 1994).

Effective questioning involves considerations beyond the questions themselves. Hansen (1994) described questioning techniques designed to pay attention to classroom dynamics and guide student responses.

Classroom environment. The context or environment in which learning takes place has a definite effect upon the learner and facilitator (Beatty, Benefield, & Linhart, 1991). Mager (1968) described "five universal positives and negatives" which provide insight into learning environments: physical comfort of discomfort, security or fear and anxiety, success or frustration, self-respect or humiliation and embarrassment, and involvement or boredom.

The environment helps to develop the intellectual and emotional platform that is necessary to support an honest assessment of one's own values and assumptions (Brookfield, 1995). Further, the learner is better able to use critical thinking skills when the facilitator effectively limits assumptions of power and hegemony in his or her teaching methods (Brookfield, 1995).

For critical thinking to take place, learners need a psychosocial climate where critical reflection and praxis are fostered (Galbraith, 1991; Knowles & Associates, 1984). In creating this climate, facilitators are concerned with the relationships among the learners, rapport and communication, opportunity for participation, values and belief systems which hold meaning for learners, expectations, and clarity of goals (Knowles & Associates, 1984). An effective environment includes mutual trust and respect, collaborativeness, supportiveness, creativity, experimentation, openness to challenge and criticism, honest and objective feedback, as well as risk taking, reflection on lessons learned, and application of learning to new situations (Beyer, 1987; Galbraith, 1991; Knowles & Associates, 1984).

Beyer (cited in Garside, 1996) described the characteristics of classrooms that reinforce and support critical thinking:

> Students feel free to risk, challenge, and question; there is student-to-student interaction focused on information processing, where students consider the ideas, contributions, and arguments of peers; teachers don't "tell," rather, they help students critically analyze ideas; students are encouraged to become active learners rather than passive recipients of information; and students take responsibility for their own thinking and learning. (p. 216)

McKeachie (1970) found student-centered classes rather than instructor-centered classes promoted higher level cognitive outcomes. Howe and Warren (1989) described

student-centered classrooms as ones that involve students in paired problem solving, cooperative learning settings, simulations, debates, and critical reporting sessions. Smith (1977, 1983) also investigated learning environments. In his 1977 study, Smith found statistically significant associations between high scores on the Watson-Glaser Critical Thinking Appraisal and greater student participation in class discussion, higher encouragement by the teacher, and higher peer-to-peer interaction. In a later study (1983), Smith found no significant relationship between students' critical thinking skills and the three factors being studied.

Research Base on Development of Critical Thinking in Adult Education

Few research studies on teaching critical thinking in adult education have been published. As Smith (1980) noted, educators have proposed a number of interesting ideas aimed at improving their students' reasoning, but they have reported little experimental research on the effectiveness of their instructional strategies.

One study (Vaske, 1998), however, has relevance for this grounded theory study. The exploratory study queried adult educators on several items related to teaching critical thinking. Results of the study indicated adult educators use a variety of experiential and participatory methods to teach critical thinking. Respondents reported frequent use of experiential and participatory techniques (e.g., small groups, discussion, open-ended inquiry). Respondents also acknowledged frequent use of reflection.

Summary of Theory and Research on the Development of Critical Thinking Skills

The preceding section of the literature review concentrated on the development of critical thinking skills, including an overview of adult learning theory, a description of selected instructional methods, and a discussion of relevant instructor variables. There is extensive theory on the topic, but research has been unable to explain clearly how critical thinking is best developed in learners.

A synthesis of the adult learning theory on development of students' thinking skills indicated: (1) there is no single theory of adult learning that could guide either research or practice because of the diversity of adult learners and learning situations; (2) effective curriculum and instruction must be learner-centered and capitalize on adult learners' experience; (3) instructors should serve as facilitators rather than information-dispensers; (4) praxis and collaboration are the core of effective facilitation of learning; (5) adults move progressively toward self-directedness in learning and should participate in the design, implementation and evaluation of learning; (6) adults are intrinsically motivated; and (7) adults generally learn best in an environment that is non-threatening and supportive of experimentation.

Based on Brookfield's (1987) conceptualization of critical thinking – "identifying and challenging assumptions" and "exploring and imagining alternatives" – the literature identified several instructional methods for fostering critical thinking skills in adult learners. The methods were grouped and discussed according to four categories – experiential learning, self-directed learning, collaborative learning, and facilitator variables. Selected experiential techniques purported to be effective for the development

of critical thinking skills included discussion, simulations, case studies, critical incidents, and participatory lectures. Methods believed to contribute to learners' critical thinking skills and self-directedness included praxis (particularly reflection), journal writing, and learning contracts. Collaborative learning methods hypothesized to be effective for enhancing thinking skills were learning teams and learner networks. Finally, facilitator variables perceived to help learners improve critical thinking skills included general classroom behaviors (e.g., multiple teaching strategies, opportunities for practice, positive feedback), modeling, mentoring, and creation of a favorable classroom environment. In brief, facilitator roles for adult educators committed to helping people develop and practice critical thinking can be summarized as follows: make use of and build on learners' past experiences, encourage learners to identify underlying assumptions, provide opportunities for critical reflection and analysis, encourage skepticism, model critical thinking, regularly evaluate and provide feedback on students' thinking abilities, help students develop learner networks, and balance support with challenge (Brookfield, 1991; Daloz, 1986; Kurfiss, 1988). Finally, facilitators should empower learners to take responsibility for their own learning. "Your role as an instructor isn't to make the horse drink, rather it is making the horse thirsty" (Sisco & Hiemstra, 1991, p. 72).

While critical thinking skills are highly valued, there is little empirical research that informs educators about what works and what does not work in the teaching of critical thinking skills. However, an exploratory study on teaching critical thinking in adult education (Vaske, 1998) uncovered several findings related to the teaching of critical thinking skills. First, respondents indicated critical thinking is a major objective

in their curricula and they included critical thinking frequently or all the time. However, we are cautioned that self-reported perceptions may not be indicative of actual practice (Paul et al., 1997). Secondly, respondents indicated use of a variety of instructional methods to teach critical thinking. Affirming the literature, respondents used experiential and participatory methods that focused on learners' experiences. Methods used frequently by more than 75% of respondents included small groups, discussion, and reflection. Methods used occasionally by more than 50% of respondents included lecture, role play, simulation, games, critical incidents, and case studies. Additional research is needed to determine the effectiveness of these methods.

This section of Chapter 2 reviewed the literature related to developing critical thinking skills. The next section will review the literature related to evaluating growth in critical thinking skills.

Evaluating Critical Thinking

> *"Critical thinking is very hard to quantify or grade,*
> *and the grading of critical thinking is always subject to debate."*
> (Kurfiss, 1988, p. xv)

There is a close, interactive relationship among the three critical thinking components examined in this review of literature: conceptualization of critical thinking, development of critical thinking, and measurements critical thinking. Tucker (1996) offered this explanation.

> Many of the unresolved issues in creating a broadly useful model for assessing and teaching critical thinking are unlikely to be resolved until there is considerably more empirical evidence about what critical thinking means . . . and

> what components of this meaning are responsive to educational intervention. (p. 7)

One of the most intense debates about critical thinking concerns its assessment (Brookfield, 1997). In fact, issues related to the evaluation of critical thinking are diverse and difficult (Ennis, 1993; Facione, 1990; Halpern, 1993; Norris, 1988; Tucker, 1996). Educators committed to teaching critical thinking are interested in knowing what to measure, how to measure, when to measure, and how often to measure changes in critical thinking skills.

Attempts to respond to these concerns have been impeded by several factors. First, critical thinking is a complex construct and " hard to quantify or grade" (Kurfiss, 1988, p. xv). Second, although there is consensus that changes in students' critical thinking skills should be documented, there is little empirical evidence to guide assessment efforts (McMillan, 1987). Third, available critical thinking measures have significant limitations (Facione, 1990; Halpern, 1993; Norris, 1988).

A review of the literature provided theories as well as limited empirical evidence on assessment of critical thinking. This section of the review is divided into three parts. The first part briefly introduces the types of assessment and then describes qualitative measures. The second part reports results of research related to the evaluation of critical thinking skills in adult education. The third part summarizes the theory and research related to assessment of critical thinking skills.

Types of Assessment

How educators define critical thinking will determine what they attempt to measure and how they go about measuring it. Thus, prior to designing assessment strategies, educators must decide if critical thinking is a set of generic skills or specific skills evidenced in particular contexts. In general, those who perceive critical thinking to be a generic intellectual capacity that manifests itself across disciplines (i.e., context free) tend to use standardized tests (Norris & Ennis, 1989) while those who perceive critical thinking to be context bound support locally crafted assessment tools (Brookfield, 1997; Cromwell, 1992). Adult educators tend to view critical thinking as context bound and use only qualitative measures to assess change in learners' thinking. For purposes of this review, then, only qualitative measures of critical thinking will be described.

Qualitative measures. In an effort to enhance students' critical thinking skills, educators have begun using critical thinking measurements that are diagnostic and formative. Formative evaluation relies heavily on qualitative methods and is often used to diagnose students' progress (Wlodkowski, 1999) and to improve curriculum, instructional methods, and evaluation techniques (Gall, Borg, & Gall, 1996).

With qualitative evaluation methods, two issues have particular significance: assessment criteria and feedback to students (Gravett, 1996). Assessment criteria should be clearly communicated to students and should include the nature of assessment procedures, content to be covered, and evaluation criteria. Evaluation criteria are of particular importance when the required tasks (e.g., essays, student papers) require a considerable amount of judgment from the evaluator. Furthermore, evaluation criteria

should be negotiated with students in order to help students gain a deeper understanding of what the criteria entail and to establish a mutually agreed upon value system for assessment (Gravatt, 1996).

One of the purposes of formative evaluation is to provide feedback to students regarding their progress so they can improve their learning. Immediate feedback from credible sources before, during, and after the learning process is best (Knowles & Associates, 1984). Brookfield (1990c) suggested five requirements of constructive feedback: (1) it must be consistent with the assessment criteria negotiated with students; (2) it must clearly identify students' areas of strength and weakness; (3) it should be phrased positively so as not to damage students' motivation; (4) it should indicate ways that students can improve future performance; and (5) it should be rapid.

Qualitative methods are particularly appropriate for evaluating critical thinking "since the questions we ask about adult development and learning are questions of meaning, of understanding, and of inner experience" (Merriam & Jones, 1983, p. 54). Qualitative methods – e.g., discussion, essay tests, student interviews, and observations – fit within the category of naturalistic evaluation (Lincoln & Guba, 1985) or participatory evaluation (Brookfield, 1986). Naturalistic evaluation techniques, unlike standardized tests, allow the evaluator to: (1) discover the thinking processes students use as well as the assumptions they make as they solve problems, (2) measure students' dispositions to think critically, and (3) assess changes in the affective domain.

One of the chief concerns about qualitative measures is reliability (Gall, Borg, & Gall, 1996). The scoring of qualitative tests is of particular concern since judgment

(rather than an objective scoring key) is required (Gall, Borg, & Gall, 1996). Training raters is the best safeguard against rater reliability concerns.

Scholars who see critical thinking as context bound face two significant problems. First, based on the assumption that critical thinking skills may not transfer, measures of critical thinking skills that are curriculum specific must be developed (McMillan, 1987). Second, there are few empirical studies to assist educators in the development and use of qualitative assessment tools.

Brookfield (1997), a proponent of qualitative measures, described three assumptions about critical thinking. First, critical thinking can be assessed only in specific contexts. It follows, then, that assessments of critical thinking need to be locally crafted by those involved with the process (Brookfield, 1997; McMillan, 1987). Importing assessment tools is inconsistent with this assumption. Second, critical thinking is a social process and its assessment also should be a social process. The implication is that critical thinking can best be assessed by one's peers who often have clearer, more objective perspectives on the situation. Third, critical thinking is person-specific. Assessment of critical thinking, then, should allow learners to document, demonstrate, and justify their own engagement in critical thinking. This approach ensures that assessment reflects real-life issues (Willis, 1993).

Self- and peer evaluation were cited frequently in the literature as two important methods of measuring gains in critical thinking (Angelo, 1995; Brookfield, 1987, 1990c, 1997; Kurfiss, 1988; Nummedal, 1994) and motivating students (Wlodkowski, 1999). Gravett (1996) argued that there are two compelling reasons for providing opportunities

for self-assessment. First, one of the aims of education is to develop intellectual autonomy which implies that individuals must be able to appraise and monitor the quality of their own performance. Self-assessment helps students develop those skills which they need to continue to pursue learning outside educational institutions (Candy, 1991). Second, self-assessment, by requiring reflection and self-criticism, is a valuable tool for effective learning. However, Gravett (1996) cautioned that educators must act as moderators in the process and provide students with feedback on the quality of their self-assessment.

Several strategies for self-assessment were described in the literature. For example, journaling can be useful to help learners address meanings that emerge as they apply critical thinking concepts to past, present, and future life experiences (Wlodkowski, 1999). A strategy that can help learners become particularly skillful at self-assessment is the learning contract (Brookfield, 1987; Galbraith & Zelenak, 1998; O'Donnell & Caffarella, 1998; Wlodkowski, 1999). In particular, instructors can require students to develop and carry out learning contracts that specify criteria for assessment, spell out indicators for judging whether or not these criteria have been met, and describe data collection techniques by which evaluative evidence will be collected. Through the use of the learning contract, "the role of evaluation becomes a process of development . . . of critical thinking and learning rather than the more usual form of punishment or reward" (Sisco & Hiemstra, 1991, p. 64). However, despite the theoretical support for self- and peer assessment, the overwhelming majority of teacher educators in a recent study made

either no allusion at all, or a minimal allusion, to the need for greater emphasis on peer- and self assessment in critical thinking (Paul et al., 1997).

Brookfield (1997) described four examples of locally crafted approaches which are premised on his three assumptions of critical thinking (above). The four examples include a pre-test and post-test approach, an experimental approach, a behavioral approach, and a conversational approach. These examples, reaching across several psychological perspectives, can be used in a variety of settings and for varying purposes.

Norris (1988) recommended using essay testing, naturalistic observation, and one-on-one oral testing. Other qualitative strategies for assessing thinking include data collection over time (instead of pre- and post-tests), interviews, videotapes, audiotapes, anecdotal notes, portfolios, and student journals (Clauson, 1997).

Brookfield and Preskill (1999) pointed out that evaluation should emphasize learning as much as assessment. To this end, they advocated use of students' own testimony regarding the nature of their experience through weekly audits, course portfolios, and student logs. Although their techniques were directed specifically toward evaluation of discussion, they also apply to critical thinking. Both discussion and critical thinking share common characteristics: they are always contextual; they are always shaped by the cultural backgrounds, experiences, and personalities of the participants; and they are best evaluated from the inside (i.e., self evaluation).

Kerka (1992) expressed hope that more recent forms of evaluation such as the tailored response test, stimulated recall, scenario analysis, and concept mapping would prove effective in measuring increases in critical thinking. She also indicated that

existing methods such as true-false, multiple choice, and essay tests can be adapted by having students indicate why an answer is false, how two things are similar or different, or by requiring evaluation or critique. Halpern (1993) suggested that good assessment of critical thinking should be based on "simulation scenarios" (p. 242) that are similar to situations the students will encounter outside the classroom.

Facione (1990) believed there are several qualitative ways, in theory at least, to measure proficiency in critical thinking, including instructor observation, comparison of the results of carrying out a given skill against some predetermined criteria, and interviews with individuals to obtain their descriptions of the procedures and judgments they used as they exercised a particular thinking skill.

The literature reported on two qualitative instruments that have relevance for this study. Browne, Haas, et al. (1978) developed a qualitative instrument because of their dissatisfaction with standardized tests for measuring critical thinking skills. The authors devised an essay exam with open-ended questions and developed explicit evaluation criteria for which they established reliability. The test purportedly measures not only whether students recognize critical thinking but whether they can engage in it. The authors acknowledged awareness of the lack of reliability for scores on essay exams but claimed to have established greater reliability than expected by providing training sessions for raters. The following procedures were used. Each final essay was evaluated by two or three faculty members, none of whom was the instructor of the student whose paper was being evaluated. Each faculty member individually evaluated the essay according to the rubric and compared his or her score with those of other faculty

members for the same paper. Over a three-year period, substantial agreement was found among these scores. On average, out of each one hundred papers, ninety-three of the papers receive scores within one letter grade of one another. The authors claim sufficient inter-rater reliability of their rubric when raters have been trained.

Another qualitative instrument was developed for use with community college students. The model, based on Dewey's definition of critical thinking, incorporates six problem solving steps. The process involves posing a question to students in a one-to-one verbal interview and then visually charting students' thinking pertaining to the six steps as the students respond to the problem. There are no technical norms, reliability, validity, or interpretation ratings available on this model (Clauson, 1997).

Research on the Evaluation of Critical Thinking in Adult Education

Only one study related to the evaluation of critical thinking in adult education (i.e., Vaske, 1998) was found in the literature. Adult educators, responding to a questionnaire, indicated that critical thinking is a major objective in their evaluation plans. Respondents also indicated that growth in critical thinking cannot be measured with standardized tests, and furthermore they did not use them. Rather than standardized tests, adult educators used "naturalistic" or qualitative methods to measure students' gains in critical thinking. In-class discussion was the most frequently used measure followed by observations, interviews with students, and essay tests. Although the questionnaire did not ask respondents to rate self- or peer evaluation as an evaluation method, there was an opportunity for respondents to provide additional methods not listed on the instrument. Three respondents indicated they used self-assessment and two

indicated they used peer assessment to evaluate critical thinking. Of the 68 adult educators who participated in the study, 36 submitted answers to open-ended questions related to evaluation of critical thinking. The most frequent response to the open-ended question was "student papers" (e.g., reflection papers, reaction papers, research papers, position papers, critical papers). Other forms of writing also were listed. For example, five respondents listed journals/journaling while three listed essays. Nine respondents named projects, either individual or team, while seven listed portfolios. Other responses, listed less frequently, included case studies and literature reviews.

Summary of Theory and Research on the Evaluation of Critical Thinking

Critical thinking is a complex construct and difficult to quantify which explains, in part, why adult educators experience difficulty in assessing students' gains in critical thinking skills. Moreover, few studies have been published which describe how adult educators go about evaluating changes in students' critical thinking skills. However, an exploratory study (Vaske, 1998) indicates that adult educators do not use quantitative measures. Rather, with increasing frequency, they use locally-developed qualitative (experiential and naturalistic) methods to assess growth in critical thinking skills. If critical thinking is context bound as adult educators believe, qualitative measures have a greater potential to meet assessment needs related to the social, contextual, and person-specific nature of the construct. There is, however, concern with the reliability of data obtained by these qualitative measures, and more research is needed to determine their trustworthiness.

Summary

This chapter has reviewed literature in the field of adult education as it relates to the conceptualization, development, and evaluation of critical thinking skills. The review of literature provides a theoretical basis for this study.

The literature reflected varying interpretations and conceptual frameworks for critical thinking. Theorists generally agree, however, that at its core critical thinking involves cognitive skills and affective dimensions and process rather than product (Brookfield, 1987; Facione, 1990; Halpern, 1994; Kurfiss, 1988). Adult educators, in agreement with the literature, tended to conceptualize critical thinking as a two-dimensional construct including cognitive skills and affective dispositions (Vaske, 1998). Central to adult educators' understanding of critical thinking is Brookfield's (1987) definition of critical thinking; i.e., the capacity and disposition to "identify and challenge assumptions" and "explore and imagine alternatives" (pp. 7-8).

The second area explored in the literature review was the development of critical thinking skills which has been posited as the central purpose of adult education. Adult learning theory supported the primacy of learning through experience and held up experiential methods and praxis as essential ways to develop critical thought. In addition, instructional methods posited as effective for enhancing self-directedness and collaborative learning were theorized as having a positive effect on fostering critical thinking skills. Although empirical studies on critical thinking development in higher education are prevalent, the results provide limited and contradictory explanations of how learners develop critical thinking skills. Only one study on this topic in adult education

was reviewed. Adult educators participating in the self-report study affirmed the use of experiential, self-directed, and collaborative learning methods (Vaske, 1998). However, the effectiveness of these methods was not tested.

One of the greatest challenges for adult educators is the measurement of critical thinking skills due to the complexity of the construct (Kurfiss, 1988) and insufficient empirical evidence to guide assessment efforts (McMillan, 1987). Based on their conceptualization of critical thinking, adult educators reported use of "naturalistic" or qualitative methods to measure students' gains in critical thinking skills (Vaske, 1998).

The purpose of this review of related research was to provide a foundation for variables expected to emerge from the grounded theory study. The limited number of research studies relating to adult education and critical thinking is one indicator of the need for further research in this area.

Chapter 3

METHODOLOGY

This study, based in the constructivist paradigm, used a grounded theory strategy to explain adult educators' understanding and experience of critical thinking. This chapter describes the research paradigm, approach, and design that were used to achieve the purpose of the study.

Constructivist Paradigm

I used a constructivist paradigm to investigate and understand the meaning of critical thinking to graduate faculty in adult education. Constructivist researchers focus on understanding and reconstructing the meanings that people (including the researcher) hold about the phenomenon being studied (Guba & Lincoln, 1994). Constructivists create knowledge through interaction between the researcher and respondents (Guba & Lincoln, 1994), using dialogue and reasoning as the primary methods of investigation. Finally, constructivist researchers return frequently to the source of data, asking what it meant to the creator and trying to integrate that with its meaning to the researcher (Rudestam & Newton, 1992). Thus, for this study, I conducted in-depth interviews with 12 adult educators, collected documents, and continually scrutinized these data in an attempt to understand and construct meaning of participants' perceptions and perceived practice of critical thinking in adult education.

Qualitative Research Approach

I chose a qualitative research approach for this study because qualitative methods are especially useful in discovering the meaning that people give to events they experience (Polkinghorne, 1991). In addition, qualitative data, consisting of words (rather than numbers) and emphasizing people's "lived experience," are well suited for this purpose (van Manen cited in Miles & Huberman, 1994).

Qualitative research methods used for this study included: purposive sampling, open-ended interviewing, and systematic and concurrent data collection and data analysis procedures. Specifically, "grounded theory" or "constant comparative method" (Glaser & Strauss, 1967) was used to analyze the data and discover the meaning of critical thinking to adult educators. A review board agreed with the purpose and procedures for this study (see Appendix A, p. 241).

Research Design

Participants

For my study sample, I purposely chose graduate faculty who have had experience teaching adult education classes and therefore would be "knowledgeable informants" (Lincoln & Guba, 1985, p. 234). Convenience sampling was utilized because it is a practical way to gather data when there are concerns about access to respondents and limited resources for the investigation (Kvale, 1996; Lincoln & Guba, 1985; Strauss & Corbin, 1998).

To select the sample, I sent letters (Appendix A, Attachment B, p. 246) to all 68 adult educators who had participated in my previous descriptive study (Vaske, 1998). Ten out of eleven of the individuals who became the sample indicated they would be attending the American Association of Adult and Continuing Education (AAACE) Conference in November, 2000, and were willing to participate in the study by being interviewed at the conference site and submitting appropriate documents. One other adult educator who was part of the initial study did not attend the AAACE Conference but agreed to be a participant. A twelfth adult educator with interest in the topic also agreed to participate. These 12 individuals became the study participants.

Data Collection

While data collection and data analysis activities were intricately woven together throughout the phases of this study, for the sake of clarity, they will be described separately. The primary sources of data for this study were interviews, document review, and field notes.

Interviews

The primary method of data collection was qualitative interviews. There were three persuasive reasons for using interviewing as the primary data source for this study. First, qualitative interviewing is appropriately used when " studying people's understanding of the meaning in their lived world" (Kvale, 1996, p. 105). In fact, interviewing is the best technique to use "to find out those things we cannot directly observe. . . feelings, thoughts, and intentions" (Merriam, 1998, p. 72). Second,

qualitative interviews result in thick descriptions of the subject being studied (Rubin & Rubin, 1995). Third, interviews allow for triangulation of information obtained from other sources (Lincoln & Guba, 1985).

Interviews with ten participants were conducted during the AAACE convention, November 13-17, 2000. For convenience, the interviews were held in locations within or close to the convention center. Interviews with the remaining two participants were held at the site where they taught. All interviews were conducted face to face because this approach is most conducive to finding out what is in the participants' minds and gives added confidence that we have a strong handle on what "real life" (Miles and Huberman, 1994, p. 10) is about. In order to improve the credibility of study findings, participants' experiences were explored in depth during interviews that lasted approximately one hour (Rudestam & Newton, 1992).

With participant approval, I audiotaped the interviews to ensure a complete transcript (Merriam, 1998; Rubin & Rubin, 1995). I also took handwritten notes during all interviews, enabling me to track key points to return to later in the interview or to highlight ideas of particular interest or importance.

As a first step in the interview process, I reminded participants of the purpose of the study, research procedures, expected benefits, the right to withdraw from the study at any time, and protection of confidentiality. I also asked participants to sign a consent form (see Appendix A, Attachment C, p. 248). A copy of the signed consent form was mailed to participants the week following the interviews.

I used the unstructured interview approach to carry on conversations that would elicit rich data that could be used in qualitative analysis (Lofland, 1971). Unstructured interviews give participants more room to answer in terms of what is important to them (Miles & Huberman, 1994; Strauss & Corbin, 1998) and to control the introduction and flow of topics (Mishler, 1986). Although the interviews were unstructured in the early stages, they became more structured in the later stages of triangulation and member checking (Lincoln & Guba, 1985).

The interviews began with one broad question; i.e., "What are your beliefs about critical thinking?" The question was framed in this manner to provide participants with the flexibility and freedom to explore the phenomenon in depth (Strauss & Corbin, 1998). Open-ended questions were used throughout the remainder of the interview to encourage participants to talk freely and respond openly to queries (Bogdan & Biklen, 1982; Kvale, 1996). Probing questions were used, when necessary, to encourage participants to elaborate on or clarify a response (Rubin & Rubin, 1995).

The audiotapes were carefully transcribed verbatim by an individual trained and experienced in legal transcription because accurate transcripts "are necessary for valid analysis and interpretation of interview data" (Mishler, 1986, p. 50). To ensure transcript accuracy, I also reviewed each transcript while listening to the audiotape.

Documents

Although interviews were the primary method of data collection, I also collected and reviewed documents. Document review was used to clarify or substantiate participants' statements (Glaser & Strauss, 1967). From each participant in the study, I

requested samples of materials related to critical thinking. These documents were relevant to the study because they are "products of the context in which they were produced and therefore grounded in the real world" (Merriam, 1998, pp. 126-127).

To make it easy for participants to send documents, at the end of each interview, I gave each participant a large, self-addressed stamped envelope. Nine of the 12 participants sent 39 documents, including: course syllabi (12); examples of student assignments (1); descriptions of classroom exercises (3); articles published by participants (8); articles published by students (1); materials presented at conferences (2); student evaluations of courses taught by participants (2); materials prepared or assembled for a tenure dossier (3); curriculum vitae (6), and program brochures (1). I used the data from documents in the same manner as the data obtained from the interviews; that is, to "furnish descriptive information, verify emerging hypotheses, advance new categories and hypotheses, offer historical understanding, track change and development" (Merriam, 1998, p. 126). The documents, like interview transcripts, were coded, analyzed, and interpreted (Merriam, 1998).

Field Notes

Field notes served as the third data source for the study. Field notes were made following each interview or each set of interviews. Because the interviews were conducted over a period of five days, two interviews were sometimes held in rapid succession. On those occasions, the field notes were taken as soon as possible after the second interview. The field notes were typed directly into a computer file. In typing the field notes, I used the format suggested by Bogdan and Biklen (1982). On the first page

of each set of notes, I included the date and time as well as a title that indicated the content of the notes. I also left ample margins for notations and coding. The field notes included my observations of the setting, particular events, and study participants (Bogdan and Biklin, 1982). I also listed questions about methodology; speculations about emerging themes, connections between/among data; and points of clarification (Bogdan & Biklin, 1982).

Data Management

All of the transcribed interviews, handwritten notes, documents, and field notes were divided by interviewees and placed in a three-ring notebook. Back-up copies of all transcripts were stored on diskettes. I kept the original data intact and manipulated copies of the data during the analysis process. I also established an indexing system for keeping track of codes (Levine, 1985).

Data Analysis

With qualitative research studies, there is a continuous interplay between data collection and data analysis (Strauss & Corbin, 1994). For this reason, I began analyzing data following the first interview in order to facilitate later data collection (Strauss & Corbin, 1998).

Analysis occurred in three phases. First, I reviewed the interview transcripts several times, searching for "recurring regularities" (Merriam, 1998, p. 180). Using the constant comparative method (Glaser & Strauss, 1967), I worked back and forth among transcripts until categories emerged that were consistent, yet distinct (Marshall &

Rossman, 1989). I named these categories, coded the transcripts, cut up the transcripts, and placed sections in labeled folders representing each category (Bogdan & Biklin, 1982; Merriam, 1998). Second, I brought together the coded interviews, documents, and field notes and looked for relationships within and across the data sources. As tentative categories emerged, I tested them against the data (Merriam, 1998) and searched for alternative explanations of the data (Marshall & Rossman, 1989). Finally, I integrated and refined the categories until four themes solidified (Strauss & Corbin, 1998).

Establishing Trustworthiness

To increase the trustworthiness of the study's findings I employed strategies suggested by Lincoln and Guba (1985). I decreased threats to credibility by triangulating data. To increase dependability, I provided an audit trail by describing in detail how data were collected, how categories were derived, and how decisions were made throughout the inquiry (Merriam, 1998). I used rich, thick description (Merriam, 1998), thus enabling other researchers to make decisions about transferability. To increase confirmability, I attempted to control for bias by constantly comparing data, searching the literature for examples of the phenomenon, obtaining multiple viewpoints (Strauss & Corbin, 1998), searching for negatives instances of the phenomenon, and checking and rechecking data (Marshall & Rossman, 1989).

Summary

In this chapter, I described the methods and procedures used to carry out the study. The study was based in the constructivist paradigm and used qualitative research methodologies. Data sources included in-depth interviews, documents, and field notes. Grounded theory or the constant comparison method was used to analyze data. The chapter concluded with a discussion of the procedures that were used to enhance the trustworthiness of the findings.

Chapter 4

RESEARCH FINDINGS

Background

Participants in the study were twelve individuals (seven female, five male) who currently teach or previously taught adult education courses in institutions granting advanced degrees in adult education. I interviewed two participants in early November, 2000, at their home sites. I interviewed the other ten participants at the annual conference of the American Association of Adult and Continuing Education (AAACE) which was held in Providence, Rhode Island, during the week of November 13-17, 2000.

Eight participants arrived early in the week to attend conference sessions; four of these participants presented sessions at the conference. The other two participants arrived late in the week to participate in the meeting of the Commission of Professors of Adult Education which followed the AAACE conference. I conversed with seven of the interviewees in meeting rooms in the hotel where the conference was held. I met one participant for lunch in a small deli about a block from the conference site. The other two interviews were conducted in the hotel restaurant – one was a dinner meeting, the other a breakfast meeting. The interviews ranged in length from 40 minutes to 70 minutes.

All twelve adult educators had volunteered to be part of my study and seemed eager to participate. Conversation flowed freely during the interviews. Three participants confided that while they were traveling to the conference, they had spent time thinking about what they wanted to say in the interview. In fact, one participant had identified three topics she wanted to be sure were included in the discussion and found

opportunities, at appropriate times during the conversation, to introduce and discuss these topics. What I learned from the interviews and a review of curriculum vitae (six participants shared their vitae) was that, collectively, these participants have published an impressive number of articles in refereed journals, book chapters, books, and book reviews, and given hundreds of presentations at professional conferences. They also have been recognized and rewarded by their peers for outstanding teaching, scholarship, and leadership in the field of adult education. Details from their vitae have been woven into the narrative presented in this chapter.

Participants varied in their professional rank, teaching assignments, and years of teaching experience in adult education. Three of the twelve participants were full professors, three were associate professors, four were assistant professors, one was an instructor, and one was currently a dean who had previously taught adult education courses. Ten of the participants taught adult education courses 100% of the time, one taught 75% of the time, and one no longer taught adult education courses. Years of teaching experience in adult education ranged from three years to 25 years, with four individuals having taught 20 years or longer and five individuals having taught five years or less. Geographically, participants represented all parts of the United States with seven from the Eastern one-third of the country, four from the central states, and one from a Western state.

The findings reported in this chapter are based on analysis of the following data sources: unstructured interviews, documents, and my field notes. It is my hope that the

following narrative, co-developed by the participants and me, captures the essence of the participants, the meaning of their words, and the contexts of their work.

Descriptive detail about the twelve participants varies. I knew more about and therefore was able to provide richer detail about those participants who in addition to their interviews submitted documents containing their educational and professional background, philosophical beliefs, research and scholarly interests, and pedagogical practices. In narrating their stories, I have changed the names of the participants to protect their identity.

Whose voice is heard in this narrative? One participant, Dr. Eaton, no longer teaches adult education courses. Therefore, his voice will be heard less frequently than other voices. Interviewees contributed differing amounts of information to the four themes that comprise the narrative. Some participants talked at length on one or two themes; their voices will be heard often in those sections but less often in others. Some participants made nearly equal contributions across all four themes; thus their perceptions will be interspersed throughout the story.

Study findings in this chapter are divided into four parts, grouped according to major themes that emerged from the data:

1. What do graduate faculty in adult education perceive as the goals of adult education?
2. How do graduate faculty in adult education conceptualize critical thinking?

3. What do graduate faculty in adult education believe impacts their teaching?
4. What do graduate faculty perceive as the importance of critical thinking in adult education?

While the findings for each of these themes are reported separately, they are interrelated. Where possible, I described these interactions to help the reader gain a better understanding of the meaning of critical thinking in adult education.

Goals of Adult Education

Although my purpose for carrying out this study was to gain an understanding of the meaning of critical thinking to adult educators, during the unstructured interviews, participants spoke about overarching goals for the field of adult education. This may have occurred because the initial question I asked ("What are your beliefs about critical thinking?") was so open-ended that participants started thinking more globally not only about what they teach but why they teach it. Without exception, participants believed student development should be the central focus of adult education. However, they differed on which aspects of students should be developed. From participants' responses, two broad categories of student development were identified: personal development and sociocultural development. They are described in the following section.

Personal Development

During their interviews, ten participants, implicitly or explicitly, disclosed that students' personal growth is the goal of adult education. Based on an analysis of their

words, I understood this to mean that the emphasis in adult education should be on individual rather than social development. Within the broad goal of personal development, participants identified three areas in which they attempt to effect change in individual learners: instrumental or technical skills, psychological or cognitive skills, and self-concept. These three orientations are described in the following section. Some participants perceived more than one goal for adult education. Thus, their responses will be found in more than one area.

Instrumental Skills

While no participant explicitly condoned development of technical skills as the goal for adult education, five individuals acknowledged that is the current reality. Dr. Inman, a long-time adult educator, captured what other participants stated more indirectly:

> . . . our field has always had such a – not exclusively, but commonly – a very pragmatic basis. We teach a lot of how to's and strategies, and that makes us feel good because we're getting somewhere, and after all, we do need to know "how to," so there's perhaps a lesser emphasis on the whys and consequences and implications and values behind what we teach.

Dr. Farrell, the most verbose participant, underscored this point. "In our program, we essentially are focused on developing skills in instructional design, developing skills in program design, developing skills in management, and, in the process, developing skills in instructional delivery." He added that adult education faculty are "obligated" to provide learners with the skills, methodologies, and approaches they will need for their future practice, adding that there is little time in the curriculum to devote to theory and application. Review of a syllabus submitted by Dr. Adams supported this emphasis on

technical skills. The stated purpose of the course was "to provide resources and heighten knowledge about steps in instructional planning," e.g., analyzing needs and establishing performance objectives. Interestingly, in the syllabus, behavioral objectives – e.g., "Compose objectives using three levels of understanding within 15 minutes." – were listed for the course.

Two participants resisted the goal of instrumental skill development but seemed to understand its prevalence in adult education. Dr. Gabriel, a supporter of the psychological goal (described next), wrote that it is difficult to "transcend" the level of technical skills because "most of society and its institutions are still built around the industrial, mechanistic, rational paradigm or worldview." Another participant, Dr. Kinter, vigorously rejected the instrumental development goal which she called a "technical rational" goal – "how to do this, how to do that." In her view, this goal "lacks a philosophical framework." However, during her interview and in several publications, she grudgingly conceded that the goal in adult education today is "learning for earning" with undue attention given to "preparing docile and technically capable workers for the work place." From her perspective as an adult educator, this goal results in "reduc[ing] our practice to techniques" and helping corporations make profits at the expense of the poor. She rejected the instrumental skills goal in support of the sociocultural goal described later in this section.

Psychological Skills

Seven participants perceived that the primary focus of adult education should be on the development of the individual's psychological or rational skills. Dr. Gabriel,

whose work is grounded in developmental psychology, believes "individuals have the capacity to continue to develop psychologically throughout their life." For her, "conscious self-reflection" (a term she borrowed from Csikszentmihalyi) is at the center of adult education. In her writings, she described what she means by this. Conscious self-reflection requires students and educators "to bring their assumptions to consciousness, reflect upon them, and through dialogue, alter, enlarge, or affirm them." In her soft French Canadian accent, she told me she tries to help people "reflect on their beliefs, develop their understanding of the subject and themselves as practitioners, and enlarge and deepen their perspectives," adding:

> I don't know if my intentions are transformative. I would probably say maybe transformative with a very small t. You know that's not my intention to transform people. . . . it's like opening people – opening them up to a wider sort of interest.

Dr. Jansen, whose students are mostly practitioners engaged in "doing type of work and look[ing] for . . . some quick ways to fix it [problem]," also espoused psychological skill development as a goal for adult education when she stated, "One of the prime purposes of graduate education is to develop skills in critical thinking with our learners." Defining critical thinking as "higher order thinking skills – analysis, synthesis, and evaluation – with reflection as a companion piece," she hopes graduate courses will help students "stop and think about what they are doing and examine more their assumptions." She explained the importance of this goal:

> I don't think we can live successfully in this world that's changing so fast if we don't have more people that examine their lives and not just do things. . . . we need to be able to examine [issues] and make the best decision we can within the complexity . . . learn to live with tension in a positive way.

Conversely, Dr. Kinter cautioned that the psychological perspective, when narrowly interpreted, focuses on the individual learner and loses sight of the social learning dimension. She quipped, "I go with what Freire says, you know, because you can't have transformation by yourself." My understanding of what she meant by this is that (1) transformation involves deeper levels of change than just psychological development, and (2) people learn more readily in groups than when they are alone.

Self-Concept

Participants seemed to want students to leave their adult education program with a better sense of themselves. Four participants proclaimed that the goal of adult education ought to be helping adult learners get to know themselves better, in Dr. Gabriel's words, "as professionals and as academics and as scholars and as learners." In support of this perspective, one of Dr. Gabriel's colleagues, writing in support of her application for tenure, noted: "[she has] an obvious ethical sense that the unexamined life is not worth living."

"The most important thing you get out of graduate education is to know where you stand because that doesn't leave you, " Dr. Lewis tells his students. His enthusiasm for this goal was evident as he continued talking about helping students gain a better understanding of their position in the world, not just as individuals but as "organizational and social actors." To conclude his response, he enumerated the questions he asks students to consider:

> What are your fundamental beliefs? What really matters about why you're here and what you are trying to do? . . . That's what you really need to know. You just need to know that. When you go to work at 9:00, you need to know what you're

> trying to do, because you're going to get so many things coming at you and so many real time decisions, you need to understand what you're trying to do.

Ms. Cale echoed Dr. Lewis's words. "We really do stress . . . [the] issue of finding your own voice . . . [gaining] self-confidence, self-efficacy, a clear sense of . . . who they are in the world and what they want to accomplish." Careful to explain that she doesn't have her doctoral degree, Ms. Cale exuded enthusiasm for teaching graduate level courses and throughout her interview used the term "we" (rather than "I") to demonstrate the collaborative nature of the adult education faculty at her university.

Dr. Duncan, quite knowledgeable about critical thinking because of her own research efforts, was the fourth participant to name enhanced self-concept as a goal for adult education. She indicated that she wants students to "gain confidence" and become more independent.

While ten participants described personal development as the goal of adult education and indicated the focus should be on developing individuals' technical, psychological, or self-concept skills, two participants offered a very different understanding of the goal of adult education as we shall see in the next section.

Sociocultural Development

Drs. Kinter and Lewis believe adult education has a social as well as a personal function. In their interviews and writings, they talked about developing their students' social, cultural, and political perspectives for the purpose of building a more just and civil society. Elsewhere, civil society was defined as "the network of civil organizations (for social work, education, culture, and recreation)" (Jansen & Van Der Veen, 1997, p. 269)

which "preserve and transform their identity by exercising all sorts of pressures or controls on state institutions" (Keane, 1988, p. 14).

Dr. Kinter has been an ardent spokesperson for social reform for many years and has received awards for her service and dedication to minority people. Now approaching retirement, she continues to speak out against "learning for earning" (the instrumental skills goal described above) and in favor of "building a more democratic and egalitarian society." A self-described "radical educator," Dr. Kinter offered a unique perspective to the study. In her writings, she has acknowledged that "most adult educators take very different standpoints than [sic] mine."

"Critique," Dr. Kinter said in the interview, "radical critique! That's what it's all about is radical critique and the issues around social justice." In her writings, she has defined critique as "educational practice that critically informs, challenges, and engages people in the creation and re-creation of knowledge." As she spoke above the din in the restaurant, it became apparent that she sees injustices in the world around the social issues of race, gender, and culture as well as the distribution of power. She believes people with power want to retain it while people without power are "denied their humanity and worth."

Dr. Kinter appeared eager to share her views on social reform and repeatedly brought the conversation back to this topic. Throughout her interview, Dr. Kinter talked passionately about the need for people (including adult educators) to "seek out relationships with people unlike themselves" and become "co-learners with the oppressed." In other words, she wants people to "critique," to think more deeply about

the world and how it operates. Rather than thoughtlessly accepting the "dominant worldview" (the view of those in power), she invites her students to "come to the table and talk about things as a group and out of their own [diverse] biographies." Believing that all people, no matter what their race, class or culture, are capable of producing knowledge, she challenges her students to "construct knowledge" and "make counter disclosures . . . to official knowledge" which she defined in her writings as "the knowledge of the 'haves' – the knowledge of science and rationality." Ultimately, she challenges students to help "bring us into a more just world." Such a world, she wrote, "promotes the full participation of its citizens" and "ensures that we strive toward a participatory democratic goal." While Dr. Kinter's words are erudite, her meaning is clear: the function of adult education is social change, not just individual development.

Dr. Lewis also endorsed a social reform mission for adult education. Like Dr. Kinter, Dr. Lewis has written extensively about the need to change power imbalances based on race, gender, and ethnicity. For example, in an article he co-authored there is concern about the relations of power "that privilege some, silence some, and deny the existence of others." During our breakfast meeting, Dr. Lewis fervently explained:

> I think the economics of our lives is so incredibly important, and we don't really give it a lot of attention, I don't think, in adult education . . . and I don't just mean issues of class, which is one thing, but just the whole issue on globalization and political economies – it's just massively important, and there's not a lot there.

From the preceding section, it is apparent that participants in this study perceived varying, even opposing goals for student development, ranging from individual skill development to social reform.

The second theme that emerged from the study was graduate faculty's perceptions of the meaning of critical thinking. In the next section of this manuscript, I report the findings related to this theme.

Conceptualizations of Critical Thinking

How do graduate faculty in adult education conceptualize critical thinking? Participants talked about critical thinking in a variety of ways. Some defined it according to their perceptions of what it is (attributes or characteristics); others talked about who does it (individual or group); some talked about how it is done (process), while still others characterized it by what they believe it does (purpose).

Participants also commented on who or what influenced their understanding of critical thinking. Some acknowledged being influenced by the work of adult educators (e.g., Brookfield, Cranton, and Mezirow) while others attributed their understanding to human resource development literature (e.g., Senge and Argyris). Ten participants had no formal training on critical thinking. However, one participant had taken a graduate level course and one participant had attended a workshop on critical thinking. Two participants had completed their dissertations on topics related to critical thinking; i.e., accelerated learning and perspective transformation. Five participants attributed their understanding of critical thinking to mentors, their teaching experiences, and reading the literature. One participant conceded that he was "a student of critical thinking, not an expert" on it, a sentiment that was echoed by other participants. In some instances,

participants were aligned with concepts other than critical thinking; their influences were resources related to their convictions (e.g., chaos theory or social learning).

During data analysis, the four components of critical thinking described above – what, who, how, and why – emerged as the criteria for categorizing participants' responses. Two general categories became evident – narrower and broader conceptualizations of critical thinking. In this section, I present these findings. It should be noted that some participants conceptualized critical thinking as being both narrow (by some criteria) and broad (by other criteria). The influences that helped bring participants to their understandings of critical thinking have been woven into the discussion.

Narrower Conceptualizations of Critical Thinking

In this section I present the responses of participants who viewed critical thinking more narrowly; e.g., as a specific skill or skill set, as an individual rather than social process, or for limited purpose(s).

Only one participant defined critical thinking as a "theory of thinking based by and large on deductive thinking, scientific thinking." Dr. Farrell, attributing his views on critical thinking to Dr. Richard Paul, Director, Center for Critical Thinking, Sonoma State University, went on to explain:

> As I understand critical thinking, a lot of it is done by the physical sciences. Good solid research is critical thinking. Essentially it is looking at the problem, looking at the approaches, and addressing the problem through various methods of analyses, identifying the most feasible approach or approaches, and then addressing those within some kind of controlled, experimental basis which is an iterative process, which then starts to process all over again for refinement.

Ten participants characterized critical thinking as primarily a cognitive skill, a conceptualization that caused concern for Dr. Gabriel. Her "problem with critical thinking," she explained, is that:

> . . . it's like your brain exercises itself, and it sort of looks at the dissonance or looks at things in kind of an intellectual, analytical way, do you know? So, it's almost as though you remove yourself, your own feelings from it, and you kind of analyze it as though you were a philosopher looking at, you know, syllogisms or looking at whether there is logic. . . . It sounds as though it's devoid of feeling . . . a disembodied intellectual procedure.

Dr. Inman also considered critical thinking a cognitive skill, i.e., "the ability and inclination to question one's actions and attitudes and underlying values." Unlike Dr. Gabriel, however, she believes those who think critically should "be objective" and "divest themselves of the emotion that might have been wrapped up in the event." Several other participants, notably Drs. Adams, Duncan, Eaton, and Hutton, concurred that ideally critical thinkers should "step back," "step outside themselves," "detach yourself," and "be objective" as they examine assumptions or incidents. During the interviews, I did not uncover whether they believe critical thinking starts with an emotional response (as Dr. Gabriel suggested) and then moves toward objectivity.

Other participants who defined critical thinking as a cognitive skill included Dr. Adams who equated critical thinking with metacognition ("thinking about our thinking") and wondered if there were links between critical thinking and Gardner's multiple intelligences; Dr. Barton and Ms. Cale who cited Senge's work on "challenging our mental models," and Drs. Duncan and Jansen who understood critical thinking to be higher order thinking skills (analysis, synthesis, evaluation). Dr. Eaton characterized critical thinking as "looking at all facets of a problem . . . putting yourself in other

people's perspectives, and having an appreciation of where others are coming from." Dr. Hutton, in the spirit of Stephen Brookfield, referred to critical thinking as "searching for underlying assumptions and presuppositions and questioning their validity, questioning how they shape information with which people are provided."

Drs. Duncan and Lewis perceived a link between critical thinking and perspective transformation with Dr. Duncan explaining that critical thinking is "the deliberation" that occurs at the beginning of the transformational process. I interpreted the link between critical thinking and perspective transformation to be the phases they share: critical reflection on one's assumptions, dialogue to validate the insight, and action (see Chapter 2 for further discussion).

Some participants conceptualized critical thinking as a "skill" (rather than an innate ability) which, according to Dr. Hutton, means it requires instruction and practice. In addition to the higher order thinking skills mentioned previously, participants named other skills which they associated with critical thinking: listening skills, the ability to ask better questions, problem solving, testing assumptions, the ability to make better decisions, and reflection (which was sometimes offered as a synonym for critical thinking). Two out of three participants who identified logic as a skill related to critical thinking believe logic is beneficial for looking at a circumstance or event. One described it as "reasoning, not rationalizing in a defensive sense, but developing a rationale and thinking about why it is we agree or don't agree" with something. A third participant, however, was discouraged by the "kind of logical analysis that we learned in first year

philosophy, you know, kind of following if A is B and B is C, then A is C and that kind of thing, you know."

Other participants tended to define critical thinking according to its depth and breadth. Dr. Barton, who appeared confident when he talked about his pedagogy, was somewhat hesitant to define critical thinking and often used phrases such as "I think" and "I guess." At one point in his interview, he suggested that critical thinking is "deeper thinking" which he defined as thinking that is "more personal, more meaningful in terms of a person's life." Dr. Adams indicated that critical thinking requires "lateral thinking" or "thinking outside [the box] to uncover additional alternatives." Further, she described critical thinking as "being open to seeing and hearing things in a broader sense" in order to get past the "biases in our minds" which often constrict our thinking.

When participants talked about what prompted individuals to think critically, they suggested a variety of activities. For example, Dr. Barton articulated what others expressed, too – that critical thinking "derives from a question being asked in class or a reading that creates kind of a teachable moment or a trigger."

Most participants indicated that the purpose of thinking critically was personal and individual (rather than social) growth and development. Dr. Barton emphasized that his courses are designed "to help students question . . . the assumptions, thoughts, ideas, facts . . . that they've had in their life." Dr. Adams wanted students to "think about their thinking." Dr. Inman hoped the result of critical thinking might be the ability "to do some forecasting" rather than always being "reactive." She didn't hesitate to explain her meaning:

> It seems to me that we ought to be able to think back about our experiences and our actions and using that information think forward about and speculate in terms of how we can improve things so that we don't have to do it in the midst of action. Maybe it's the counterpart of Schön's notion of reflection-in-action.

Dr. Kinter, as noted previously, is not a supporter of critical thinking. During her interview, she exposed a whole host of problems with critical thinking which she referred to as "technical rationality" by which she meant that "much of our life and work is informed by science and rationality" as if people were machines. First, she described definitional problems. "Critical thinking is 'Can you compare? Can you contrast?'" It is "thinking within the box" with the box being "your own little backyard . . . your middle class Euro-centric world." Further, she confronted Brookfield's definition which describes critical thinking as challenging one's assumptions and exploring alternatives. "How can you 'challenge assumptions' if you don't first of all get a good feeling about what's out there that doesn't operate within your worldview?" Later, raising her voice to drive home her point, she exclaimed, "And I think it's absolutely wrong for us [adult educators] to be putting out doctoral students who are, in fact, logical idiots, because they can develop all kinds of stuff but never question what's happening!"

Second, Dr. Kinter talked about whether critical thinking is done alone or with others. Her perception is that critical thinking as defined by Brookfield and Mezirow is viewed as an internal process. "I see them both as being much more into a psychological way of looking at critical thinking – they're more into individuals changing themselves." Dr. Kinter doesn't see it that way. She believes that learning is social; i.e., people do not learn in isolation – they need a group.

> . . . we can't just learn by ourselves. There's a social dimension of all learning – it's not just psychological; it's not just internal. It's not something that is cognitive in a way of dealing with your cognitive apparatus or putting it one way or the other way. It has to do with contextualizing what you're thinking about in the real world.

Third, Dr. Kinter questioned the purpose of critical thinking. In her view, critical thinking turns out to be "sharpening up your intellectual abilities" rather than "really thinking about what's going on in the world." For her, the goal is "to bring us into a more just world" – a political action goal that, from her perspective, is not addressed by the proponents of critical thinking. After all, "social dimension learning means that you do your responsibility. You are your brother's keeper. You are!"

While Dr. Kinter indicated she has perused the work of Brookfield and Mezirow, her sociological perspective of the world has been influenced by Gramsci, Freire, Giroux, and Horton. She credited these theorists with "developing a critical practice to challenge us to become more critically conscious of why we do whatever we do."

To summarize, in this section I reported a variety of narrow definitions of critical thinking. In general, these conceptualizations viewed critical thinking as a discrete skill or skill set – usually a cognitive skill without an affective dimension. For the most part, these conceptualizations suggested the thinking was done by an individual (not a group) and for the sake of personal development.

I turn now to perceptions of critical thinking that are broader in nature based on the criteria presented above.

Broader Conceptualizations of Critical Thinking

In this section I present the responses of participants who viewed critical thinking more broadly; e.g., as cognitive skills and affective dispositions, as a collaborative rather than individual effort, or for global purpose(s).

Dr. Jansen offered one of the broadest definitions of critical thinking. "I see it more as trying to learn how to think conceptually, trying to learn how to think of the big picture, trying to see in many ways." She continued, "It's not that you have to change the way you believe, but at least you've looked. It's kind of that looking." Other broad definitions were proffered by Ms. Cale who described critical thinking as "problem posing" (in the spirit intended by Freire) and "meaning transformation" (as described by Mezirow).

Several participants described critical thinking as a process but did not always elaborate on what type of process it was. However, in certain instances, it appeared the process was primarily cognitive in nature. For example, Dr. Hutton defined critical thinking as "a process of searching for underlying assumptions and presuppositions" and added that it "moves increasingly toward abstraction." Dr. Farrell seemed unable to make up his mind about what kind of process was involved in critical thinking. Consequently, at various points in the interview, he associated critical thinking with several processes: "deductive thinking," "scientific thinking," "analytic thought," "reflection," and "praxis" (a term he couldn't define when asked what it meant to him). He also described critical thinking as a general process; e.g., "straight forward process" and "iterative process." Dr. Eaton stated that critical thinking is "a continuous process

that should be implemented throughout the curriculum." Dr. Lewis perceived that "as a process, critical thinking should start where people are and work with people's experiences."

A number of participants – namely Drs. Barton, Farrell, Inman, Jansen, Kinter – posited that "praxis" is integral to critical thinking, but they appeared to have differing understandings of the concept. Dr. Barton described a spiraling process of critical thinking that begins at the "personal level" and then "extends to readings and conversations in class." He referred to this process as

> . . . praxis or Senge's notion of learning in terms of having the experience or having the idea, analyzing it, coming up with some alternatives, deciding on an alternative, deciding on an answer, coming to grips with that answer, formulating the answer, rethinking it, you know, just kind of going around and around in that kind of wheel of learning.

Dr. Farrell, with prompting, was able to connect "praxis" to Brookfield's conceptualization of critical thinking which he then described as a "scientific process" of looking at issues and deciding on an action. Dr. Inman introduced the notion of praxis (as used by Freire) to describe the relationship she sees between critical thinking and reflection. She imagined a continuum with critical thinking on one end, praxis somewhere in between, and reflection (conceived as "benign" and "less impactful" than critical thinking) on the other end. Dr. Jansen envisioned praxis as part of critical thinking but wondered if the process continues when students leave the classroom. "We can have a lively discussion in class, but I'm not sure if it changes their practice outside of class, so they may have the reflection, but I'm not privy to changes unless they share

that with me." Finally, Dr. Kinter pointed out that her understanding of praxis is not prevalent in critical thinking.

> I think praxis has to do with when good theory comes out of action and good action comes out of theory, and it's a dialogical relationship. . . . Critical thinking basically still accepts the notion that thinking is separated from action, and I don't think that way.

Two participants, Dr. Hutton and Ms. Cale, talked explicitly about critical thinking as having not only a cognitive but also an affective component. For example, Dr. Hutton described critical thinking as analysis and questioning (cognitive activities) but also noted an affective dimension, "There's a healthy dose of cynicism" in critical thinking – a healthy cynicism, but cynicism nevertheless." Throughout his interview, Dr. Hutton spoke in ways that demonstrated to me that he is not only familiar with the literature on critical thinking but that he also applies the theory in his classroom.

"If you're going to get someone to really reframe, really think, really critically analyze, you've got to hook them, you've got to interest them," Ms. Cale asserted. One hook is emotions. She presented her argument:

> I don't think you get people to rethink things that are important to them unless you can engage how they feel about it. I think that engaging the feeling comes first, and that if you can engage them at that level, then there is the possibility of engaging at the cognitive level as well.

Ms. Cale, whose practice relies heavily on organizational literature (particularly Senge), elaborated on this point, noting that her teaching has changed over the years as she discovered the importance of emotions in learning.

> The other way that I've changed a lot is the recognition of how important the affective is. And that it's just there. And that if it can be used constructively and positively and joyfully, it is a very powerful part of the learning, the retention, the passion for whatever is being studied. In other words, students can't just sit in the

> back of the room and take notes and perhaps, you know, cognitively appreciate what is going on but not bring anything of themselves to it.

Dr. Gabriel confided that for her "problem solving" (a narrower definition of critical thinking put forward by some participants) isn't a helpful concept because it implies:

> . . . that there is a specific problem and it has a name, and you've kind of contained it, and now you're going to solve it. Whereas maybe it's more often the boundaries of the problem are much looser. . . . what he (Ackoff) calls "the mess" . . . it's a state of affairs, do you know. It's a situation that you're trying to understand or unpack in some way.

In other words, Dr. Gabriel doesn't believe in teaching students to solve problems but is interested in helping them "unpack messes" because messes are a more realistic way of viewing what happens in life. In her words, unpacking means "kind of opening it [the discussion topic] up – almost like a parcel – just trying to understand it that way, do you know?"

Throughout her interview, Dr. Gabriel gave the appearance of being very friendly and approachable, often interjecting phrases such as "you see" or "do you know" into her conversation with me, making me feel that she cared what I thought about her ideas. I felt confident she treated her students with the same deference and concluded that students would be willing to engage with her in "unpacking messes." Student evaluations confirmed my impressions. One student wrote, "First, allow me to say how thoughtful and reassuring to me your [written] comments were. I really appreciate your kind spirit and the time and thought you place into [making] them." Another student commented: "I left your class refreshed – like I had some good therapy!"

From a curriculum point of view, Dr. Gabriel defined critical thinking as "a technique" (which is perhaps a narrower interpretation) while Drs. Barton and Farrell called it "a teaching methodology" and Dr. Lewis considered it "an instructional process."

Participants also talked about catalysts that stimulate critical thinking. Ms. Cale and Dr. Inman spoke about dissonance as a way to challenge thinking. Ms. Cale commented, "We say [to students] that we're trying to make you uncertain. We're trying to unsettle you." Dr. Inman, quoting Mezirow, agreed that "often what prompts it [critical thinking] . . . is a 'point of dissonance.'" Further, she agreed with Brookfield that the stimulus "can be 'a positive thing' . . . but we're much more likely to be prompted to do it in the midst of a problem than in the midst of the flow that we get into." I interpreted this to mean that critical thinking can be triggered by either a positive or negative event but is more likely to result from a negative event. Dr. Adams agreed with Dr. Inman's position. Dr. Lewis hoped to stimulate thinking by offering students "multiple and competing perspectives" rather than simply allowing them to "wallow in their own experience." His espoused goal was supported by one of his course syllabi which listed four theoretical viewpoints as course content.

Some participants maintained there is a far-reaching purpose for thinking critically. Dr. Lewis first raised the fundamental question: "Critical thinking – for what?" He added, "Until you understand what you are trying to do with critical thinking, you really haven't given it life." Then, at several points in his interview, he voiced his convictions. Critical thinking, in his view, helps students "understand what their

assumptions are, what is wrong with those assumptions, what the newest thinking is." Further, he laid out two goals of critical thinking: (1) "to help people either articulate or change or re-evaluate where they stand," and (2) "to give people access to different ways of understanding how the world works."

A parallel goal was conveyed by Dr. Gabriel. However, while Dr. Lewis seemed more intent on working toward a sociological goal, Dr. Gabriel appeared to advance a more individual goal. In her words, "It's important for them [students] to have their position, to recognize their position and be able to state it. And then, I think, when you can do that then you can also appreciate alternative views, you know."

Dr. Kinter spoke of "read[ing] the world instead of the word." She continued, "You can read all of Brookfield's books that you want to, and you can still exploit people and keep on exploiting people, and you'd never know you were exploiting them." From this, I understood her to say that reading books can be an abstract exercise that may not help people think critically or understand the important issues in the world. For Dr. Kinter, the vehicle for reaching the goal is not critical thinking, but "criticality" which she defines as "critical reflectivity" or "radically thinking about what's going on in the world." Dr. Lewis, recipient of national and international literary awards, expressed a similar concern:

> In order to think critically, I think people need to have access to different views of the world and different ideologies, and I don't think you can expect people to just reflect on their own assumptions without offering them some other possible ways to think about the world.

In the preceding sections, I discussed participants' perceptions of the meaning of critical thinking. Their conceptualizations were categorized as either narrow or broad

based on their beliefs about the attributes, process, and purpose of critical thinking as well as who is doing the thinking. I move now to the third theme that emerged from an analysis of the data; namely, those things that participants believe impact their teaching.

Impacts on Teaching in Adult Education

During unstructured interviews, participants talked about those things they believe impact their teaching. Although the purpose of this study was to understand the meaning of critical thinking in adult education, not all participants teach critical thinking skills. In fact, some participants expressed opposition to teaching critical thinking skills; others said they do not teach critical thinking directly but hope those skills are a by-product of their teaching; and still others consciously integrated critical thinking into their curriculum. Only two participants indicated they teach critical thinking skills directly. Consequently, when participants talked about their teaching practice, they did so within a broad framework.

Analysis of the data resulted in the third theme for the study: What impacts the teaching of graduate faculty in adult education? Participants described their beliefs about two key factors that they perceive as impacting their teaching. First, they described contextual factors such as the diversity of their students and the nature of the courses they teach. Secondly, they talked about their beliefs about pedagogy, particularly their beliefs about (a) building a learning community; (b) what should be taught in adult education courses; (c) how content should be taught, including approach, teaching styles, and

instructional strategies; and (d) evaluation methods. I report findings for the third theme in the order listed above.

The Context

Participants spoke about the context in which adult education takes place. I am defining context to mean the diversity of students and the nature and level of courses that adult educators teach – the two contextual issues that emerged from data analysis.

Diversity of Students

All eleven participants who are currently teaching adult education courses talked, at some point in their interview, about their students. They all teach masters level courses, and some also teach doctoral level courses. Their students are "mature adults, typically 35 years old or older, in well-crafted, positioned careers. They are not young people. They are not inexperienced." With those words, Dr. Inman described the "typical student" in adult education courses. To this profile, Dr. Kinter added that those with the most education are the ones who enroll in adult education classes: "The biggest predictor of who's going to be in adult education will be people who have education. The more education you have, the more likely you're going to be found in an adult education program." In her writings, she insisted that the result is that "We [adult educators] have turned much of the education of adults into providing more education for the already educated" which results in "widening the gap between the most and the least educated in society."

Although their students have some common characteristics (above), what participants spoke to me about during their interviews was the diversity of the students. Their stories are unique and memorable. I recount them here so that the reader will discover participants' commitment to address cultural diversity or inclusive approaches to education.

Ms. Cale commented on the "broad spectrum" of students who come with a "variety of experience" and are headed in "varied directions" – training and development, public school adult education, police work, nursing, or vocational-technical education. She observed that the challenge for adult educators is to provide a core curriculum yet allow people to develop in the arena in which they have interest.

Dr. Duncan also spoke about diversity in her classroom where students come not only from different races and cultures but also from differing life styles and are of different ages. "Diversity is a very big issue where I am in New York City. I have people from all sorts of different positions in their lives, and there is fortunately a tolerance for diversity and even an appreciation for diversity in the city." While she welcomes the diversity, she also worries: "How do they fit in and how does their voice get heard? How do you allow them to be true to their cultural values and yet fully participate?" Dr. Inman told a story that illustrates this point.

> I'm reminded of a student, a fellow student, a number of years ago who was asked, along with the rest of us, to critique the work of some scholars, among them our professor. Some of us might have been hampered by trepidation at doing that, but one of our group was of a culture in which that was seen as very disrespectful, and she simply couldn't do. The disposition, the attitude wasn't there – it was culturally based.

Dr. Garbriel also embraces diversity in her classroom. She talked about what happened in her class when people were discussing bell hook's book, Teaching to Transgress: Education as the Practice of Freedom. Describing students' reactions to the book, Dr. Gabriel began:

> Sometimes it will start like this. They'll say, "I had this point of view about things, and then I read bell hooks, and I was so mad at her, and I just hated her, and she's so bitchy, and she's so angry, you know, and I just didn't like the book at all at first." And then it's so fascinating – because this really happened – one of the other women said, "You know, she is angry, but if . . . what if you could hear the pain under the anger?" And I couldn't have said that – but she did, and she's an African-American woman who I think really understands bell hooks' perspective, and thank God if there are African women or men in class because they add that perspective that we wouldn't get otherwise, you know.

Two participants, Drs. Kinter and Inman, intentionally sought increased student diversity but in differing ways. For example, Dr. Kinter spoke with pride about her institution's successful efforts to recruit students who differ by race, class, and culture.

> We had mostly European Americans in our program when it started, and we started immediately to try to bring diversity – not to have diversity so we would meet some goals of the university, but to have diversity in it because there are different ways of people's thinking. So now we have 40% of our doctoral students are people of color. Twenty-eight percent of them are U.S. – like African-Americans, Hispanic-Americans – and 12% come from third-world countries.

Currently there are 239 doctoral students and 100 plus master students in the adult education program in which Dr. Kinter teaches, "and they are all over the place. You get the Blacks and Latinos from the city, and you get the whites from the suburbs, and you get the Navy base, you know – the standard deviation is high."

Dr. Kinter was motivated to seek out diversity for her classroom because of her worldview. She believes the world is "fashioned by the dominant culture" by which she

means whites and Europeans. The dominant culture, she believes, strives to maintain its power with the result that the poor and marginalized remain oppressed. The solution to this problem, in her view, is to bring the underprivileged into our schools and universities, co-learn with them, and challenge the current power structure. A recurring theme in her interview and in her writings is that "participation is the key to learning" and that a more democratic society will come only with "full participation by all its citizens."

Personally, Dr. Kinter claimed no credit for bringing diversity to the university, yet it soon became apparent that some students come to the university solely because of her and her reputation for working with the oppressed. Although there are several stories that could be told, I've elected to retell only one that I believe will give readers a picture of Dr. Kinter's stature and magnetism. Here's the story as told by Dr. Kinter.

> There is a woman in Taiwan who had been working with other Taiwanese women on a number of different social movements that they felt were important like environment, like peace. And she gets on the Internet, and she sees my article that's called _____. She e-mails the folks that had put that article up and said, "How can I get in touch with this woman?" And she said [to me], "I'd like to come over and study with you. I want to do doctoral study." This is a true believer, because she says, "What you said . . . what you said made it all - it just connected! And this is what I want to do." So she is down working in this African-American group with me, and she came over here because she already is headed that direction, and she just wants to begin to get concepts that would help us interrogate our own oppression.

Once I understood how important diversity was to Dr. Kinter, I asked what an educator should do who doesn't have a diverse group of students. "I think they are going to be severely limited," she responded. "They better figure out how to do it. Get outside the classroom and reach out. . . . If the troops aren't there, get them there. We got them there."

"The troops weren't there" in Dr. Inman's class, so she designed an activity to bring more diversity into her classroom.

> In a class where we were going to be examining a lot of cultural issues and diversity issues, I expected that my group would be predominantly white and not very diverse and that worried me, so as a way of remedying that to some extent, one of the very first assignments I gave was for everyone to introduce us to an alter ego, someone as unlike themselves as they could possibly imagine. And some people would send back an e-mail and say, "I thought of Maria," and then give a brief explanation of who Maria might be, and I sent back an e-mail and said to the person who created Maria, "So, Maria, tell me about yourself" and just ignored the person and focused on the alter ego.

For the remainder of the semester, Dr. Inman took opportunities to "elicit a perspective about some reading or some discussion from the standpoint of the alter ego, not from the person enrolled in the class." For example, "we conceived of educational challenges the person [alter ego] might face and how we could mediate those." But she worried that the activity "held the potential for perpetuating bad stereotypes," so she used that as a point of discussion and is "convinced that there was more good that came from it than harm."

Diversity of students, then, was the first contextual issue that participants believe impact their teaching. I turn now to the second contextual issue that participants raised – the adult education courses they teach.

Nature and Level of Courses

During their interviews, several participants brought up the topic of their courses. They revealed that they teach a variety of courses, ranging from introductory masters level courses to advanced doctoral level courses, and in diverse areas ranging from theory courses to technology courses. It seemed they wanted me to understand that the types of courses they taught influenced their efforts to teach critical thinking skills. The other

influence on this discussion, of course, was their personal understanding of the meaning of critical thinking.

Analysis of the data indicated that some participants, but not all, believe that certain content areas as well as course levels lend themselves better to the facilitation of critical thinking skills. Dr. Lewis was the exception. He believes the particular course has little bearing on the matter. Viewing "the whole instructional process [as] a critical thinking process," he uses the same approach and methodologies for all his courses. In his words, "I don't actually teach critical thinking. I don't say we're here to teach critical thinking. I think we just do it."

Other participants, however, offered alternative viewpoints. For example, although he no longer teaches adult education courses, Dr. Eaton thought that doctoral programs put a greater emphasis on critical thinking which was confirmed by Dr. Farrell who reported that it is in the course for doctoral students that "the application of critical reflection probably is realized to its fullest." Ms. Cale, too, seemed to believe that advanced courses are more suitable for development of critical thinking skills: "So the challenge that I would give students in their final class is different than [sic] the challenge that I would give in the first class."

Philosophy and theory courses also were identified as being appropriate for facilitating critical thinking skills. Dr. Hutton, for example, noted that "philosophizing" is critical thinking. He uses critical thinking activities in his history and philosophy of adult education course as well as his adult development and learning course. Dr. Barton

felt that his adult organizational learning course "lends itself very well" to engaging students in critical thinking.

Introductory courses as well as courses with an emphasis on building technical skills were hypothesized as having less potential for developing critical thinking skills. For example, Dr. Adams conjectured that teaching critical thinking skills would "take time away from the measurable behavioral things that you need for performance improvement" – which she believed was the objective of human resource development courses. Dr. Farrell indicated that his computer-based training course emphasizes technical skill development "which takes the entire semester just learning those skills." For Dr. Barton, the development of critical thinking skills is not the purpose of his adult learner, distance education, and leadership and management courses; the focus is on "new knowledge and new things that they're reading that I want them to understand and come away with . . . as well as really begin to assess how they fit in with that new knowledge." Finally, Dr. Duncan teaches adult education courses as well as technology courses for educators. In required adult education courses, she teaches critical thinking skills directly, but in the technology courses, she "let[s] it emerge . . . and if they bring it up, we start talking more."

Two participants, Drs. Barton and Farrell, wondered if having a course "just on critical thinking" would be the answer to giving proper attention to the development of thinking skills, but Dr. Farrell seemed skeptical that students would be willing to take another course and pay more tuition.

In summary, participants in this study perceived that two contextual factors – the diversity of students and the nature and level of courses – have significant influence on their teaching. They also discussed other impacts on their teaching. In the next section, I report participants' beliefs about topics related to pedagogy by which I mean the art, science or profession of teaching.

Beliefs about Pedagogy

Even though the adult education field makes a distinction between pedagogy (sometimes defined as the art and science of teaching children) and andragogy (defined by Malcolm Knowles as the art and science of teaching adults), I use the generic term pedagogy here to describe participants' beliefs about (1) building a learning community – i.e., environment; (2) what should be taught – i.e., content; (3) how it should be taught – i.e., approach, teaching style, instructional strategies; and (4) how it should be evaluated.

It will be noted later that most participants in this study follow andragogical practices in the sense that they recognize learners' life experiences are resources and stimuli for continued learning (see Chapter 2 for further explanation). However, one participant appears to understand teaching more in the sense of what Paulo Freire (1970) termed "the banking concept of education" (p. 72). According to this view, learning is standardized and learners are viewed as "receptacles to be filled" with subject matter which is dependent upon the educator's judgment about what, when, how, and if learning is to take place.

Building a Learning Community

Nearly all participants talked, at some point in their interview, about the importance of creating an environment conducive to learning. They tended to believe that a learning community should be welcoming, safe, and respectful of diversity. Further, they talked about the importance of having students establish norms for the environment in which they will co-learn with their teachers. I found a common thread woven throughout their conversations: Whose voice will be heard in this learning community?

To create a welcoming environment, Dr. Jansen performed a "lot of the prescription type things," such as "greeting people when they arrive," "[using] icebreakers," and encouraging the group to make decisions. Ultimately, her goal is to

> . . . put warmth back in the classroom, and students don't often expect that in a graduate class. They expect – well, actually I'm trying more to ask them what they expect. . . . So, I try to, oh dear, demystify what education is at that level and to open a new paradigm for them.

A democratic classroom also helps people feel welcome, according to Ms. Cale who tries to achieve this feeling by "always [using] first names, always [seated] in a circle." Dr. Duncan felt a "welcoming community" is "a really important piece for building a base for critical thinking." She added, "I think humor is a big part, too – being able to poke fun at yourself sometimes and say, 'I know this is my own way of thinking about it, but this is where I am, you know.'"

Ms. Cale envisioned a safe environment "in which it's okay to express what you're feeling as well as what you're thinking. . . . and if they [students] are willing to engage with us both affectively and cognitively that they will see no harm for them."

Similarly, Dr. Eaton visualized an environment which allows "each individual in the class to participate and challenge each other in a non-threatening way." Dr. Farrell seemed to agree that a safe environment must be developed. The kind of environment he believes is necessary for critical thinking is "an acceptant environment . . . within which critique can be voiced, can be heard, and equally important, listened to."

Dr. Jansen's beliefs about building a learning community came from the transformative learning literature and her own research. Like Ms. Cale and Drs. Eaton and Farrell, she craves a safe community but believes:

> The classroom is not a safe environment, and when you ask people to think and when you challenge their assumptions or invite them to expose themselves, basically, I think the safety is very tricky. And the part I discovered in my own research is how important a group was. . . . You know safety only comes from an agreement with the group to be a group. . . . If you want to get discussion going with – equality is the only word I can think of right now – then it's very important that there is a group feeling, and that each person in the group is responsible for what is going on.

Dr. Lewis talked about the classroom environment as "air space" and noted that it needs to be protected, and, in some cases, restricted:

> Air space is very precious. I try to be careful on making sure that everyone who wants to speak gets to speak and that people who want to speak a lot don't get to dominate the air space. So I do a lot of [monitoring], and people know that. And I've got lots of comments from people who typically in other classes or other experiences didn't get to speak, and people have . . . written back saying they felt like I was protecting them personally and giving them space to speak.

In addition to "air space," Dr. Lewis described "intellectual space" which he defined as "allowing, permitting, encouraging different points of view – either ones I bring in or ones people in the class have that they want to bring to the attention of the other class members." Dr. Gabriel built on this notion when she talked about who takes

the classroom space. "It's not like I don't say anything or that I just facilitate, you know, but I have to watch sometimes how much I do that so that I'm not kind of taking too much of that for myself – too much space, you know." Ms. Cale concurred. "I usually join the carousel (a classroom exercise with which I was unfamiliar) so I get a chance to give my ideas as we go around. So what I think about it gets included – it doesn't get excluded, but it's one voice amongst many."

Dr. Inman described the type of classroom environment she hoped to create – one of mutual respect where students and educators challenge one another but also provide enough support so they can meet the challenge. Ms. Cale agreed, adding the importance of "creating an environment of trust . . . by being open, non-judgmental, caring, and demonstrating that." Dr. Hutton recognized that it takes time to cultivate a climate of respect. Rather than asking students to think critically early in the semester, he waits until students have had a chance to "become comfortable with my ways of doing things and who I am a little bit before I ask them to think in those ways." On a similar note, Dr. Jansen who seemed to have given a great deal of thought to the topic concluded, "Any time you take them [students] out of being private and ask them to go public, has to be really safe and slow."

In stating her beliefs about building the classroom as a learning community "where you're in it together," Dr. Duncan brought together all three elements – the welcoming, safety, and respect – of a nurturing environment:

> Creating a climate of respect is a really key part. People need to feel safe in their environment, be it a journal entry they are writing to you that only the teacher might see or a classroom discussion or small group or e-mail or whatever it is.

> The climate of respect and a welcoming climate that, you know, will entertain new ideas and not be judgmental.

Three participants indicated that they employ a democratic approach to create the environment in which the students and teacher will learn – i.e., they ask their students to develop "ground rules." These participants used a variety of strategies for establishing these norms. For example, Dr. Jansen, who has studied and written about self-directed learning, divides the class into groups and asks each group to come to consensus on ground rules for a designated portion of the environment. One group develops "expectations of the teacher" while another group identifies "ground rules for the students." Once the whole group has agreed on a set of ground rules, they are posted in the classroom and referenced and renegotiated if necessary.

Ms. Cale described the strategy she uses to establish a learning community with her students:

> I let them know there is going to be a lot of group work; there are going to be projects that they're going to be working on together, and we talk about good and bad experiences people have had doing that. We talk about the ground rules that they think would help make experiences more useful. We use Kolb's Learning Style Inventory . . . for them to begin to understand why others do, in fact, learn differently and work differently in groups and how to maximize the strengths that each different learning style brings to a group.

Dr. Lewis has his students set group rules, too, and also expects them to uphold the rules once they are in place:

> In the critical perspectives class, that's the first thing we do the first week is set ground rules. That's very explicit. Even in other classes, there are norms that students set, and, you know, if you have a student who is overly verbal that the other students will – I always feel like they'll take care of it. These are all adults.

Voicing a somewhat different perspective, Dr. Adams explained that her role as an adult educator is to create an environment that "is compatible with brain-based learning and also with all of the physical needs [of students]." The role of the students is "to be receptive to the environment and also to tell me when and if they need something." To create such an environment, Dr. Adams "build[s] in a lot of variety . . . using the whole brain theory." She continued:

> I have Baroque music playing – Baroque which is pre-classical – because it is about 70 beats per minute, and that has been proven to slow down your heart rate to about 70, and so you're more relaxed, and if you are more relaxed, you're more open to the information, and you can process more of it in your short-term and long-term memory. So I try and use the cush balls for feeling, and small groups throw those and things, and we have the scented markers. . . . I do try to have us get up and down a lot and into the small groups or moving here and there or rotating.

In the above section, I narrated participants' beliefs about building a learning community which is welcoming, safe, and respectful – a learning community in which all voices can be heard and in which critical thinking can be fostered. In the next section, I report on participants' beliefs about course content.

What Should Be Taught

During their interviews, participants talked not only about the courses they teach (described above) but also about course content or curriculum. As they described the books and other materials they use in their classes, several things became apparent. First, it appeared that what they teach is closely aligned, in many instances, with their perceived goal for adult education (see earlier section of this chapter) which is oftentimes linked to their worldview. Second, because participants teach a variety of courses, the

materials they use are equally varied, making it difficult to group data for discussion purposes. Third, even when courses have similar titles, the content varies from one educator to the next. Fourth, as was reported previously, participants, generally speaking, do not directly teach critical thinking skills. In fact, six participants explicitly stated that they do not teach critical thinking skills although, in most instances, they believe they are fostering critical thinking through course readings and activities. What participants believe about the importance of critical thinking, including how much emphasis it deserves in the adult education curriculum, is discussed in more detail in the next section of this chapter.

Given the diversity of participants' comments, in this section I report individual responses related to course content beginning with those associated with the development of critical thinking skills and moving to those that address other purposes. Again, it should be noted that respondents were engaged with me in unstructured interviews, so unless the individual initiated a conversation about course or program content, his or her beliefs about what should be taught are not recorded here.

Participants who teach critical thinking, albeit indirectly, referenced five authors whose works have been tied to critical thinking – Senge, Brookfield, Mezirow, Cranton, and Freire. I begin with Senge whose writings appear in organizational literature, that is, human resource development literature.

Although three participants named Senge as one who influenced their thinking about critical thinking, only one of these participants elaborated on how his work, The Fifth Discipline, might be used in class for fostering critical thinking skills, particularly

with pragmatic students whose interest is in improving performance. Dr. Adams, who works part-time as a consultant in the area of human resource development, proposed that Senge's ideas about how "organizational learning, corporate knowledge, and knowledge management" could assist people in thinking about competitors, market trends, and the development of a marketing plan. "That's critical thinking – going back and reflecting on, maybe it's their behavior, but their behavior is based on certain assumptions and thoughts."

Nearly every participant talked about Stephen Brookfield. However, only six participants utilize his work in their classes, with five of the six naming specific books or articles or activities that they have used. Dr. Hutton turns to Brookfield's critical incident questionnaires "as a basis for developing a part of their [students'] learning portfolio or learning journal." Dr. Gabriel refers to Brookfield's article, Breaking the Code: Engaging Practitioners in Critical Analysis of Adult Educational Literature to help students learn the skills of critical analysis. Drs. Duncan, Inman and Jansen rely on his books The Skillful Teacher and Developing Critical Thinkers. Dr. Jansen "like[s] people to understand Brookfield. . . . The Skillful Teacher says so much when I'm doing the methods class."

Dr. Duncan also draws on chapters from Becoming a Critically Reflective Teacher for her course in strategies for teaching adults. Students react positively:

> Brookfield they like a lot. They find him very readable. . . . He seems to put into words a lot of what educators feel. . . . On the other hand, he pushes buttons to take you further, you know. So he poses questions to really challenge your thinking.

Dr. Duncan also shows a videotape, Conversations on Lifelong Learning, which features Brookfield as well as other renowned adult educators.

Conversely, Dr. Kinter does not use Brookfield's works for reasons cited previously; namely, she finds his understanding of critical thinking too narrow and too individualistic.

The third author whose works are utilized by participants is Jack Mezirow who developed the theory of transformative learning. Five participants claimed to draw on his work with Dr. Inman naming his recent book, Learning as Transformation, as a resource for her courses. Dr. Jansen makes use of selected articles by Mezirow. Again, Dr. Kinter was the only participant who expressly declines to use Mezirow's works for the same reasons she dissents from using Brookfield's materials (see above).

Dr. Duncan employs the work of Patricia Cranton who, like Mezirow, writes about transformative learning but is, in Dr. Duncan's mind, "more readable than Mezirow." Finally, Ms. Cale relies on Freire, particularly his ideas about problem posing, as she attempts to enhance students' critical thinking skills.

I move now to other course content (not directly related to critical thinking) that was mentioned by participants. I believe participants initiated discussion on this topic in order to convey their beliefs about what curriculum is important for their adult education students.

One participant, Dr. Gabriel, provided a general framework for this discussion when she wrote that there are "three sources of knowledge – texts and materials, myself and other students, and the individual's own experiences" and these "comprise the

materials of my courses." In this section, I discuss only the physical materials described by participants, but it is noteworthy that course content extends beyond these materials to include people resources such as peers, the instructor, and the individual's own experiences.

In their interviews, participants often talked about topics they include in their curriculum. For example, Dr. Lewis focuses on issues related to "power and class and race" and "globalization and political economies." Dr. Kinter includes "Black and Latino authors. . . . something international like Paul Wangoola's book on Political Economy of Adult Education." I sensed she chose these books in order to offer her students opportunities to think beyond their "middle class Euro-centric world."

Further, participants named several and varying materials that they draw on in their courses. I list, rather than describe, selected examples of these materials. If more than one participant named the resource, I included (in parentheses) the number of individuals who referenced it.

A partial list of materials cited in interviews by participants includes: Freire's Pedagogy of the Oppressed (4); a videotape of Bill Moyer's interview with Myles Horton, founder of Highlander (3); Giroux's Border Crossings (2); Handbook of Adult and Continuing Education (publication date 2000); Weiler's Teaching for Change; Wilson and Cervero's What Really Matters in Adult Education: Lessons in Negotiating Power and Interests; and Flannery and Hayes' Women as Learners. Several other authors were mentioned during participants' interviews. They come from a wide range of

professional literature and represent various cultures and races. They will not be listed here; however, some authors and titles have been woven into the narrative of this chapter.

In the preceding section, I provided an overview of participants' beliefs about what should be taught in adult education courses. Some of the authors and materials they named are closely connected with critical thinking; others less so. In the next section, I report the teaching styles and instructional strategies participants utilize in order to teach this curriculum.

How Content Should Be Taught

Participants' beliefs about how curriculum should be taught can be grouped into three categories: approach, teaching styles, and instructional strategies.

Approach. Through their interviews, participants revealed the approach (direct or indirect) they utilize to teach critical thinking skills. Eight of the twelve participants in this study indicated they teach critical thinking using an indirect approach. In other words, they do not provide explicit instruction on critical thinking but believe their curriculum and instructional practices help foster students' thinking skills. Only two participants directly teach critical thinking skills; that is, they infuse critical thinking instruction into subject matter instruction and clearly explicate the principles of critical thinking. The two remaining participants do not teach critical thinking skills and are, in fact, opposed to such instruction. They voiced problems with the definition of critical thinking, how it is effected, and the narrowness of its purpose.

In the remainder of this section, I describe participants' beliefs about teaching styles and instructional strategies. As I listened to their words, I oftentimes wished I could observe them in their classrooms, interacting with students.

Teaching styles. I begin this section with a discussion of participants' beliefs about how knowledge is constructed. What they believe about this topic helps determine which teaching style(s) they employ. Following data analysis, I was able to group participants' perceived practices into two broad categories; namely, traditional methods and constructivist methods. By traditional, I mean teacher-centered rather than student-centered methods that tend to treat learners as "empty vessels waiting to be filled." On the other hand, I am defining constructivism to mean learner-centered methods which encourage individuals to take an active role in constructing their own knowledge by trying to make sense out of their experiences. This process requires people, individually or socially, to develop and test mental structures until a satisfactory one appears (Driscoll, 1994; Merriam & Caffarella, 1999). In reporting the findings on teaching styles, I have included self-directed methods, collaborative methods, and sociological methods under the broad umbrella of constructivism. I describe each of these in turn.

One participant overtly described his teaching style in ways which I would call traditional. Dr. Farrell seemed to utilize a teacher-centered approach, at least in some of his classes.

> But the intro course – and you're hearing my style – the intro course is largely instructor led. I have tried with minimal success the self-directed kind. "Well, what would you like to learn?" [he asked students], and their level of response is "How am I supposed to know what I'm supposed to learn if I don't know the field or what I'm supposed to be learning?"

On other occasions during the interview, Dr. Farrell gave clues that he employs a traditional style of teaching. First, he seems to direct the learning as evidenced by two activities he designs for students. For example, he related that he (the instructor) prepared the questions used by students when they carried out survey research. "I put the survey together. They don't have to design it. That takes time. They don't have to design it. I put the survey together." For another course in which students visit local corporations, Dr. Farrell prepares the survey form: "I give them an outline – they can ask any questions they want [in their company visits] – but it's a pretty cut and dry outline." Secondly, Dr. Farrell seems to relish the control that (traditional) educators have over students' learning. He shared what he tells students in one of his computer courses: "You [as instructional designers] are totally in charge [of the learning]." Later, he boasted that students, upon finishing the instructional design course, sometimes tell him they hadn't realized "how much control" instructional designers have in facilitating learning.

Conversely, several participants talked about their teaching style in ways that demonstrated their support for a learner-centered approach based in constructivism. In fact, two participants used the term "constructivism" (or a derivative) in their conversations with me. Dr. Duncan stated, "Another thing I do with technology is emphasize how much critical thinking is really needed, but I do it in a constructivist way." From this, I gathered that she did not tell students what is needed but allowed them to discover it for themselves.

Dr. Inman also talked about constructivism when she described a class activity she and her colleagues created:

> We've even crafted case studies where the figures involved move to action based on some ill-founded judgments. And we ask the students what they think about that. But it takes both explaining to them that there are at least multiple ways to view the truth if there is a truth, oftentimes, explaining to them what constructivism means . . . then encouraging them and continually pushing them to see alternative images and views of things, and then expecting them to do it and continuing to challenge them.

While other participants did not use the term, through their words and reported actions, they gave the appearance of being constructivists. Two participants tended to believe that knowledge can be constructed in large part by the individual. Ms. Cale and Dr. Duncan described self-directed approaches they use to help students take increasingly more responsibility for their own learning. For example, Ms. Cale emphasized that all three faculty members in the adult educator program in which she teaches employ self-directed learning methods with their students. Although they do not use learning contracts with students, faculty members do ask students to "put together a plan" early in the program which they then review and modify throughout the duration of the program. For the plan, they "select from a variety of what we call concentrations," "plan their field work," and "plan for their final capstone paper." To assist students with their self-directed learning, faculty "stop the classes, you know, usually asking them to think about what it is they want to learn and where they want to focus for that particular class." A review of supporting documents submitted by Ms. Cale indicated the consistency of this theme across courses and across faculty in her university's adult education program. In fact, the program offers three one-credit hour courses that are titled "Self-Directed Education." The first is an orientation course, the second is review and focus, and the third course is the preparation for the final comprehensive examination.

Dr. Duncan also utilizes self-directed learning methods in some of her courses. She explained:

> In one of my courses that I teach I use a quasi learning contract. It's like a menu. You [students] pick one from Group A, one from Group B, and one from Group C, and you put it together, and together we decide on different deadlines for your projects. When I do tutorials or independent studies, those are very much set up like learning contracts . . . because it puts so much more responsibility into their [students'] hands.

Five participants appeared to endorse constructivism as a method of collaborative (rather than individual) knowledge construction. From this perspective, the students, together with the educator, work together to create knowledge. Dr. Kinter who has been honored with awards for teaching excellence called this "co-learning together. Everybody helps one another." Dr. Eaton expressed his belief that "as a teacher you are continually learning with your students, and I do firmly believe that within a group the information is greater than that of the individual." Dr. Lewis acknowledged the power of collaborative learning when he stated that "probably the most powerful course that I've been involved in" was the one in which "the class members collectively [ran] the course" by choosing the materials and facilitating and leading discussions.

Listening to Dr. Gabriel's perspective on students helped me recognize that she practices a constructivist approach to learning. Not only did she express appreciation for students who "were still talking and asking questions" even when "it was time to go home," but she was adamant that students' ideas aren't really any less valid than the people who write [books], do you know?" At another point in the conversation, she demonstrated her belief that knowledge is co-constructed. In critiquing her presentation at the AAACE conference, she said:

> The thing I had intended to do yesterday, but I didn't, was to have them [participants in the audience] tell me something about how they used creativity and how they use contingency, do you see? That had been my intent, but I didn't do it."

Based on these words, I understood Dr. Gabriel to mean that she generally uses a constructivist teaching style. When she failed to do that during her conference presentation, she felt she had missed the mark. "So, in a sense, I didn't really practice this method, but I checked with people at the beginning as to whether they knew about this [chaos theory – the topic of her presentation], you see. And if people had said they knew, then I would have probably done something quite different."

Apparently, Dr. Gabriel's beliefs about creating knowledge are well-known to her students and colleagues. Commenting on her teaching style, one student wrote simply: "This is a true adult educator practicing andragogy." A colleague of Dr. Gabriel's wrote a letter to support her application for tenure:

> Her classes are organized to make use of students' previous life experiences, including personal and professional activities which have shaped them, and to encourage critical discourse. Her syllabi reinforce her core beliefs that her role is to support and guide students rather than serve as the holder and dispenser of all knowledge.

Although these participants believe in and practice collaborative constructivism, Dr. Duncan reminded me that not all students are ready for student-centered learning: "Some of them want the teacher to tell them what to do. They're really uncomfortable at taking on more ownership." She illustrated her point by telling the story about the time she did "a virtual chat" with one of her technology classes:

> We held the class on line. . . . It was going really well. I had let the conversation run, and I was facilitating by watching what was going on, and people were asking each other great questions. They didn't need me to be chiming in, but

> there was this one student who continually, about every five minutes or so would say, "Where's Dr. Duncan?" And I'd answer back, "I'm right here in [she named the state.]" Then again later she would say, "Where's Dr. Duncan?" because I wasn't out there in front leading all of the discussion. She was very uncomfortable with the students just taking over and taking the conversation to different levels, you know. That was a really telling experience for me – that someone would have a problem with that facilitative role. She was so used to the teacher-centered model that she was really uncomfortable [when] she couldn't see me or hear me, you know, being there being in control.

Finally, two participants demonstrated their support for a sociological approach to constructing knowledge. Both Dr. Kinter and Dr. Lewis seem to follow a constructivist approach to learning (also known as an emancipatory or empowerment model of education), and both believe that knowledge is collaboratively constructed. Unlike the participants who are cited in the previous section on collaborative methods, however, these two adult educators recognize a social goal for the construction of knowledge. Since I have already quoted their views on the goal for adult education, I will not repeat them here except to say that they both are interested in trying to change society. Dr. Lewis attempts "to give people some different views of understanding and acting in the world by . . . bringing in multiple and competing theoretical frameworks."

As described previously, Dr. Kinter believes that knowledge is socially constructed and that both students and educators must participate in the process. As a constructivist, she is forthright in her conviction that students can produce knowledge:

> I don't want to make them [students] consumers. I don't like the consumers. That's a market model [learning for earning]. I don't want consumers. I want people who are making knowledge. I want you guys [students] to go out and produce knowledge. You are producers of knowledge. You can use the word "I." You can say "I think" because I actually want you to think. That's what I want you to do.

So far in this section, I have reported on the approaches and teaching styles that participants seem to employ when they teach adult education courses. Next, I discuss their beliefs about teaching strategies.

Instructional strategies. Throughout their interviews, participants talked about the instructional strategies they use with adult learners. By instructional strategies I mean the variety of processes that are utilized to further the learning once the teaching style has been determined (Conti & Kolody, 1998). Through data analysis, I discovered that participants' views could be grouped into three broad categories: instructional strategies related to (1) collaborative learning, (2) self-directed learning, and (3) facilitator behaviors. There is considerable overlap and interaction among these categories. In cases where a strategy could fit into two or more categories, I placed the strategy where it seemed to fit most logically.

Before discussing these instructional strategies, I provide background information. First, although I didn't ask participants about instructional strategies during their unstructured interviews, all participants except Dr. Eaton who no longer teaches adult education classes initiated discussion of the topic. However, there is considerable variation in their conversations with some devoting little time to this topic and others talking about it at length. Second, participants identified a variety of instructional techniques that they employ. Some strategies were mentioned by only one participant while others were named by several participants. Third, participants claimed to use instructional strategies for a variety of purposes; e.g., to promote learning in general, to foster critical thinking skills, to accommodate students' diverse learning styles, and to

create and maintain student interest in the subject. Fourth, participants perceived that the timing of instructional strategies mattered. Thus, they employed certain strategies early in a course, others later on. Further, they perceived that certain instructional strategies are more effective when used in advanced courses. Fifth, participants seemed to view instructional strategies as being closely interrelated with curriculum and evaluation. Therefore, they often spoke concurrently of more than one of these instructional processes with the result that I have reported on instructional strategies not just in this section but throughout the narrative. Finally, although I did not designate a separate category for experiential learning strategies, participants seemed to place students' life experiences at the heart of the teaching-learning process. As Dr. Lewis pointed out, "You always have to start where people are, and you have to work with people's experience as they understand it." Dr. Barton concurred, stating:

> There aren't many things that I do in any of my classes that don't bring out the individual's experiences with that topic unless it's something so new or so factual in orientation that I just feel like I have to cover if for some reason. Otherwise . . . we just bring it right around to "How does this fit with you? What does this mean to you?"

Thus, participants frequently talked about strategies designed to help students connect course content to their everyday experience. As a result, experiential learning is a theme that has been woven into all three categories of instructional strategies.

With this background in mind, I turn now to participants' beliefs about instructional strategies, beginning with the category I've titled collaborative learning strategies.

Many participants talked about collaborative learning strategies which I define as those strategies by which students and facilitators together explore ideas to find solutions to problems. Dr. Gabriel's students captured the concept of collaboration in one of the criteria they generated for "having an experience" in her class: "Everyone is willing to share ideas and stimulate thought." The strategies I placed in this category are related to group (rather than individual) learning and include: discussion, debate, case studies, critical incidents, simulations, and selected group exercises. As participants described them, these strategies tended to be learner-centered and were largely participatory in nature.

Discussion was the most frequently used instructional strategy referenced by participants perhaps because discussion could be used as the sole instructional strategy (e.g., for exploring ideas, analyzing books and articles) but could also be used in combination with other instructional strategies. Discussion occurred in small and large groups and across courses, particularly advanced courses. In fact, Dr. Farrell commented that group discussions are "almost countless" and added "a lot of people rave that that's one of the highlights and most beneficial aspects of the program." Dr. Adams shared this perception: "Students like to hear from other students." Similarly, Ms. Cale reminisced, "What they [students] will say in the end, when we're debriefing on their experiences, is that the greatest learning that they had was from each other."

For Dr. Gabriel, discussion ("exploratory conversations" is the term one of her colleagues used to describe her method of engaging students in dialogue) is more than an individual's thoughts on a topic. In a statement regarding her philosophy of teaching, she

wrote: "Students must be willing to enter into the conversation with authors and with one another, to express their views, and explore their personal perspective as it relates to the subject under consideration." Her observation pointed out two issues related to discussion as an instructional strategy. First, she seemed to say that discussions must be substantive, that is, there is interaction with the materials being studied as well as with peers. Ms. Cale emphatically agreed:

> Personally I hate shared ignorance . . . so I always make sure that there's content – that there's a base of information and that whatever small group discussion and processing that's happening is about something, you know, something substantive, so that they can deal with it intelligently.

Secondly, Dr. Gabriel – "a well-read and well-taught curriculum theorist" according to one of her colleagues – seemed to suggest that one of the purposes of discussion is to move people beyond their current perspective. In her interview, she talked about how "hearing other people" in discussion sometimes "raises enough questions" for students that they'll say, "I'm going to read it again, because there are things I've missed." Other participants, including Dr. Kinter, made the same observation: "You ask everybody to come up with what was the major thing about that book and how it impacted you and to talk about that."

Participants offered additional reasons for using discussion as an instructional strategy. Dr. Gabriel championed discussion because:

> To my mind that is so much more interesting to listen to than if they hear me drone about the book, do you know? It just seems – to them it's new, you see – they've discovered it, and they share it with the class!

These comments reminded me of a metaphor Dr. Gabriel had cited earlier in the interview when, quoting a respected mentor, she exclaimed: "Knowledge is like fish, you

know. It must be fresh!" For Dr. Gabriel, discussion of students' personal experiences served another useful purpose – it could lead into material she planned for the course. For example, she had students "reflect on things they've learned over the past year or so" as "an opening" to Lindeman's work "because Lindeman talks so much about learning from life."

Students in Dr. Gabriel's course on critical literature in adult education consistently give her high marks (nearly a perfect 5.0) on instructor evaluations. They also send unsolicited letters, expressing their appreciation for her approach to discussion. "YOU ARE A **FANTASTIC** FACILITATOR!" one student exclaimed. "I simply love everything about this class," another student wrote, "from the 'high' brought on by the thought-provoking discussions . . . to your critiques [of written papers]." He likened Dr. Gabriel to "the potter taking raw clay and shaping it into what eventually becomes fine pottery." Another student commented, "I think the student-led seminar format with ample class discussion is an excellent format for the class." Finally, one student claimed, "The reading and discussion awakened an understanding and appreciation of the 'discipline' [adult education] and convinced me of the value of and need for folks with the training I and my classmates are receiving."

What gets talked about in discussions? Participants named a variety of topics. Sometimes it was a book or article that all have read (as described above). Sometimes it was a paper written by a student. Dr. Gabriel advocated this strategy for two reasons. First, it gave the students a broader audience for their writing. Second, it stimulated further discussion. Other times, the discussion topic was a question raised by a student.

Dr. Lewis said he often "make[s] opportunities" for students to present to the group issues they confront in their professional lives. To illustrate this point, he told the story of an incident that had recently occurred.

> At the end of every class, I ask people if they, you know, have any comments or questions about a class – observations or things they would like to bring to discussion. So two weeks ago at the end of class . . . one of the women in my class [Heidi] wrote back . . . and said, "I'm having this problem at work where my supervisor is using an evaluation form that no one's filling out. We're not getting useful information. We get information, and they're not giving it to the faculty. It's not being used for any purposes, and it's also a terrible evaluation form." She says, "What can I do?"

Dr. Lewis invited Heidi to write up the problem for class discussion because "it was a common problem" that "everyone would benefit from discussing." The following week, he set aside the planned agenda so that Heidi could present the problem to the class. Divided into consulting teams, the class discussed the case and then brought their questions and possible solutions to Heidi. Dr. Lewis was delighted when the students, through dialogue and without his prompting, recognized that the problem was "political rather than rational."

While student participation in discussions seemed to be a regular occurrence, three participants stated that they ask students to take the next step and lead group discussions. Ms. Cale and Dr. Gabriel, for certain courses, give students responsibility for leading discussion on selected topics while Dr. Lewis designed a course which is facilitated entirely by students.

An alternate perspective was voiced by Dr. Jansen who several times during her interview commented on her own pedagogy. She expressed two concerns about her approach to discussion. First, she felt she didn't use discussion frequently enough. Her

preferred strategy was to "put students with a case study and then [have them] report back." Second, she worried that she didn't contribute much of herself in discussions, commenting that she felt she should follow Brookfield's counsel: "Self-disclose and share your own."

While some participants indicated it was sometimes difficult to get some students to talk about their experiences, Ms. Cale voiced a different problem:

> I think the greater problem can be that that's all that happens, you know, the students want to talk about their own experiences as the only substance. So I think it's finding a balance. But, again, some students are more verbal, so they are more likely to talk about that. Others, given the opportunity to journal . . . prefer to communicate perhaps that way just to me rather than to the class. And if students choose to stay distant from it [discussion], that's their choice. And again, I think they recognize that they are gaining less.

Discussion was the first collaborative strategy described by participants. The second was debate. Three participants referenced debate as an instructional strategy they utilize. Dr. Jansen resorts to debates for "the change of pace" and because debates motivate students "to examine the issues." Dr. Inman uses a form of debate when she has students "argue the opposite side of things." Dr. Adams uses debate as a way for students to discover where they stand on certain ethical issues. She explained that she begins the exercise by asking students "how many of the company's resources do they feel that they, as an employee, have a right to use." After they had identified several examples:

> I ask who wants to argue for going to an extreme on one way and who wants to go to an extreme on the other way. And then they break up that way, and then they each have a couple spokespeople and then we have a little debate on it. Then afterwards we ask if anyone's mind has changed. . . . So you can take that [issues raised by students] and go deeper with it if you want [and] get into the whole values things and the rights of employees and the rights of employers. . . . So that's an example I have used of critical thinking . . .

The third collaborative instructional strategy that participants talked about was case studies. "It's inconceivable to teach without cases or incidents or something like that," Dr. Lewis exclaimed. "I always uses case studies in my classes – either ones that are very typical where people can relate to them" or ones that students generate. Other participants who rely on case studies were Dr. Jansen, Ms. Cale, and Dr. Adams who usually develops the case studies herself but finds that students sometimes "bring wonderful examples . . . from real life situations."

Two participants utilize critical incidents, the fourth collaborative strategy discussed by participants. Although this strategy begins as an individual activity (the students independently respond to questions), I placed it in the category of collaborative strategies because the individual responses are synthesized and the results are shared with and sometimes discussed by the group.

Dr. Hutton explained that he takes the last five to ten minutes of class time to ask students to write down their responses to the five critical incidents proposed by Stephen Brookfield: (1) At what moment in class this week were you most engaged as a learner? (2) At what moment in class this week were you most distanced as a learner? (3) What action that anyone in the room took this week did you find most affirming or helpful? (4) What action that anyone in the room took this week did you find most puzzling or confusing? (5) What surprised you most about the class this week? Dr. Hutton then collects and reviews the responses. His purpose for using the critical incidents is so that students can "review their thinking" over a period of time and also use the information "as a basis for developing a part of their learning portfolio or learning journal."

Dr. Inman said she employs critical incidents – in the form of a short questionnaire or narrative – every two or three class sessions. Sometimes she asks students to respond to the questions verbally and then the entire group does a debriefing "on the spot." At other times students respond to the questions in writing. In these cases, Dr. Inman collects the responses, analyzes the data, and feeds it back to the group.

Simulations, which I am defining as role playing, in-basket exercises, and educational games, were the fifth collaborative instructional strategy conveyed by participants. Two participants acknowledged that they use role playing. Conversely, two participants reported they shun this strategy. Paradoxically, Dr. Adams whose syllabus included behavioral objectives stated:

> We don't do a lot of role plays in a graduate level class because we are really not very behavioristic, and we're not skill building in a behavioristic way. I do use role plays when I'm doing training and development in organizational settings.

Dr. Inman also avoids role playing exercises. "I think the kinds of role plays that people are comfortable getting into are superficial." She shook her head. "I think sometimes if it were different content we were teaching or different aged students, I don't know. I just don't find them valuable."

On the other hand, Dr. Inman does make use of in-basket exercises which are another type of simulation. She described an exercise by which she gives students "a set of real life tasks to dispense with." After they have finished, they debrief, focusing on why they made the decisions they made. She believes the exercise "helps them [students] get at an examination of their attitudes" and "uncovers one more layer of thinking." She also uses an educational game called BaFa, BaFa which is intended "to teach people

appreciation for other cultures and perspectives, but it's wonderful to shake people out of a comfort zone and get them to looking at their behavior."

Beyond the collaborative instructional strategies already mentioned, participants identified other group exercises they have found beneficial. I present a sampling of these exercises, each one of which begins with individual responses from students but is enlarged by group discussion and therefore is considered a collaborative learning strategy.

Dr. Barton described agree/disagree statements as an activity that he believes could prompt critical thinking (although that is not his purpose for using the exercise) because it challenges students' beliefs and assumptions:

> An agree/disagree statement is just a general statement that I use that serves as one of the themes to the class . . . one of them would be – "Learning is a highly personalized experience!" – and then throughout the course we touch in on that in a number of ways. But from that – what I really want them to get out of that type of question is what learning is all about, you know, if they can define it . . . if it is a highly personalized experience or not. . . . [It] helps students begin to kind of question what their beliefs are about this type of stuff.

Dr. Barton uses this exercise early in the semester and repeats it at the end of the semester. He explained that the first time students respond to the agree/disagree statements:

> They may not have read anything about those questions so their opinions are formed basically on whatever they believe in before the class, but as a theme in the class we do an awful lot of readings on each of those topics, and those readings then help them either agree with what they originally thought or to disagree and state why.

According to Dr. Barton, the exercise generates "a lot of good conversation, a lot of good discussion." Review of a student's final paper on agree/disagree statements

affirmed for me what Dr. Barton stated. It appeared the exercise challenged the student "to rethink" many of her beliefs.

Dr. Adams, through a "Discovery Learning Worksheet," challenges students to analyze a paragraph, state what it means to them, and then respond to a series of questions about why they think what they do, how they came to think that way, what assumptions they were making, and finally what they learned about themselves through this exercise.

I conclude this section by displaying the perspectives of four participants who explicitly stated that they use collaborative instructional strategies to enhance students' critical thinking skills. I begin with Dr. Duncan who explained that she attempts to develop students' critical thinking skills by discussing with them "every day we meet in class" the materials they have been reading:

> I ask them to turn it around and to examine it and to look at what is the meaning of this? Why would the author be talking about it from that perspective? What are other perspectives with which to look at it?

In addition to discussion, Dr. Duncan finds case studies helpful for fostering thinking skills because they require students "to pull the cases apart" to decide which solution(s) might work in certain situations. Discussion and experiential activities are the strategies Dr. Jansen employs "to encourage critical thinking." Dr. Hutton attempts to generate students' thinking about assumptions and the origins of those assumptions by using an exercise developed by Gerald Apps. Dr. Hutton describes what he believes are the outcomes of the exercise:

> Now, I think, most of the time people come away from that process with the same views most of the time. It's only once in awhile somebody goes, "Oh yeah,

> maybe I really need to think about that again!" and actually changes their [sic] views, but I think they all come away with a better sense of why they believe what they believe and a better security in their beliefs.

Finally, Ms. Cale discovered "a wonderful technique for critical thinking." The "carousel" activity involves dividing students into groups, giving everyone a set of stem questions, having each group deal with every question, then rotating groups so that each group has had a chance to address each question but also has the benefit of seeing the key points other groups have made about each question. The final step is that the group that started at a particular station returns to it, analyzes and synthesizes what every group has said related to their stem question, and reports back to the large group.

Having disclosed participants' perceptions about collaborative instructional strategies, I proceed to the second category of instructional strategies that emerged from data analysis – self-directed learning strategies. I named this category "self directed" because these strategies seemed to focus on helping learners become more independent and autonomous. Included in this category are: journal writing, learning contracts, educational plans, and selected class exercises.

The first self-directed learning strategy I present is journals. Six of the twelve participants in this study divulged their support for journal writing and described different types of journals they use. The most enthusiastic supporter was Dr. Jansen who spent well over half of her interview talking about learning journals and their importance for fostering critical thinking skills.

Dr. Jansen became interested in journal writing because she believes "there are some learners . . . that blossom with this type of vehicle to express themselves." Further,

she believes the journal provides "time for reflection" and "opportunities to communicate with the instructor that there isn't time for in the classroom." Despite her excitement, however, the initial reaction from students was "resistance" which she attributed to "negative past experiences . . . a feeling that [they] are doing busy work, an invasion of [their] privacy." She continued:

> I found as I was doing the journals, I had to deal with the resistance. I had to stay in the background and be a guide and then lead them into – support what they were doing – guide them to reflection, if you will. And then when they were ready, challenge them.

Currently, with the help of her students, Dr. Jansen is doing research on the learning journal and "finding it [to be] a powerful tool . . . powerful in many ways." Further, because it is a learning journal (with the emphasis on learning), she believes "it's a safer thing. At least that's what I'm hoping."

She uses learning journals in two courses – the introduction course and the adult learner course – and for three purposes. She explained the first purpose:

> I'm not trying to get their feelings. I don't want their feelings part of it, but now think about you [student] as a learner. What does it mean to you? I try to help them own what happened to them as a learner, and it's just exciting to see some students really – and so you've opened a door for them that no one else opened.

A second purpose of the learning journals is to help students "become better writers" by doing "informal writing." Dr. Jansen's focus with the journals is "on the learning," not on "spelling, grammar, APA format." The final purpose of the journals is tied to their role as participants in Dr. Jansen's research study:

> I tell them, "This is your data" because I'm also trying to build in them [students] the understanding that they are researchers, so every – it's kind of like every piece has something that's connecting. . . . I try to use those words, you know. "This is

> your data. What's happened to you over this semester? You know, you're basically collecting or interviewing yourself, if you will, each week."

Other participants also made use of learning journals. Dr. Hutton uses what he refers to as "reflective learning journals" for the same purpose that Dr. Jansen uses journals – i.e., students "reflect on and think about their learning process and then write about it." Eventually, the journals become part of the students' portfolios. Dr. Duncan and Ms. Cale also use learning journals. In one of her syllabi, Ms. Cale provided a definition of "learning journal," the purpose of the journal, as well as the expectations for students, and criteria for evaluation of journal entries. For that course, the learning journal is a major component, and it leads toward an end-of-course personal essay on the theme, "The Meaning of Adult Education."

Two other types of journals were discussed by participants – reflection or literary journals and electronic journals. Drs. Inman and Duncan ask students to keep journals that are literature-based. Dr. Inman calls them "reflection journals or reading logs" while Dr. Duncan refers to them as "literary journals." By either name, the intent of this type of journal is to have students critique what they read from their perspective as practitioners.

Drs. Hutton and Duncan use electronic journals when they are teaching on-line. In Dr. Duncan's case, "electronic journal" means the students e-mail her every week after class. "Those are brief, usually at the most, it's a paragraph, but it really helps them to reflect on their learning and helps me to know if they're getting lost."

Having completed my discussion of journals, I move ahead to the second self-directed learning strategy mentioned by participants – learning contracts. As discussed

elsewhere in this narrative only one participant, Dr. Duncan, confirmed that she uses learning contracts in one of her courses.

The third self-directed learning strategy was the educational plan. Again, only one participant, Ms. Cale, talked about this strategy, and I narrated her comments earlier in this chapter.

Finally, participants offered their insights on additional activities which fit my criteria for self-directed instructional activities; i.e., they seem to be attempts to increase students' independence and autonomy by giving them more responsibility for their learning. In this section, I provide examples of these activities.

One example of a self-directed learning activity was supplied by Dr. Adams. The exercise she uses, called "Start, Stop, Continue," has two aims. First and foremost, it is a tool that prompts students to think about and write down those things that they, as learners, should start, stop, or continue. Second, it is a teacher evaluation tool. Students are invited to make suggestions to Dr. Adams about what she, as the facilitator, should start, stop, or continue.

Dr. Gabriel, twice the recipient of her university's junior faculty research award, offered two examples of self-directed learning strategies she uses with her students. The first activity is autobiography, an area in which she has conducted research. Dr. Gabriel spelled out the purpose of the activity:

> . . . and so, see, what I'm trying to get people to do is try and understand themselves more maybe, you know, to understand themselves as people in the adult development class, as learners and teachers in the critical literature class, and then the books are sort of another dimension of that. In other words, it's like I want them to learn to know themselves in terms of their points of view or their perspectives or their own histories, you know, of where they are coming from,

> and then to engage with these authors, in a sense, to maybe to critical think themselves and to critical think the authors, do you know what I mean?

The second instructional strategy that Dr. Gabriel uses is critical analysis based on Stephen Brookfield's article on that topic. Her purpose is to help students gain an appreciation of books and give them a tool they can take with them to critique literature after they have completed the course.

This concludes my discussion of self-directed learning strategies. I turn now to the third and final category of instructional activities that emerged from data analysis – facilitator behaviors. I gave this category its name because it includes a variety of instructional behaviors that are thought to impact students' learning and are directed, at least initially, by the facilitator.

I suspect that Dr. Kinter was right when she said that students "case out" their instructors before they take courses from them. If that is true, then what students would find if they "cased out" the participants in this study is that they share similar perspectives about the following behaviors: instructor modeling; critical questioning, including advance organizers; lecturettes, and debriefing. In addition, certain participants described other strategies they use; e.g., encouraging risk taking, allowing for discovery, and honoring students' opinions. Even though only one individual referenced each of these last three strategies, I felt they were important, and I have included them at the end of this section.

Three participants named modeling as an instructional strategy they use. Further, they explicitly stated that they use this strategy to develop students' critical thinking skills. As Dr. Lewis said, "You could teach critical thinking by having people read about

it, or you can teach critical thinking by doing it, and, I guess that's – I don't teach critical thinking by reading about it." Apparently his students believe he models. He reported that they tell him "that I'm always willing to encourage critiques of what I'm doing, and where possible, I try to turn critical reflection on the course itself including me as the teacher." Dr. Inman expressed similar support for this strategy: "I think one of the ways we teach critical thinking is by modeling it." Dr. Duncan believes she models critical thinking for students when "I talk about instructional techniques that I use." She provided an example:

> I might talk about the first time I tried to use a live chat with my students on line and how I thought that it was going to happen this way. . . . Little did I know that on certain computers, the computer would have trouble, so people were at locations, and they couldn't log into the conversation, and so there was a lack of knowledge on my side of all the complications we could run into at that point. They're not so big any more. But I think showing how you can look at your own performance or your values, your beliefs, and talk about how you've learned from them, I think is a big piece. How you've come to view them differently, you know. How you've challenged what you thought.

On the other hand, one participant, Dr. Jansen, regretted that she didn't do enough modeling, stating: "That's an area I'd like to work on." She also had some ideas about how she might do that. "Again, if I did more discussions with the group . . . they would probably see me model my thinking more, and that would be a good thing for me to have." She offered a second example of how she might do more modeling. "I have yet to keep a journal while I'm teaching and share my journal with the students, so there are, you know, there's a future of new things for me to try to do." As I listened to her talk about modeling, I was reminded that at several points in her interview, Dr. Jansen thoughtfully reflected on her pedagogy and offered insights into how she thought she

might improve her teaching practice. She certainly seemed to be a "reflective practitioner."

Eight participants talked about questioning as an instructional method. Three of these participants referenced the use of questions to stimulate critical thinking. "I think posing questions is probably the biggest way [to get students to think critically]," Dr. Duncan declared. Dr. Hutton "raise[s] questions with students about information in discussions . . . I think what I do is simply ask – kind of the devil's advocate approach." He believes this strategy "helps people think critically." Dr. Inman uses critical questions "because I think, otherwise, it [discussion] is not as deep as it could go. It's sort of that surface versus deep level of perspectives."

Other participants also use questions but not for the expressed purpose of fostering critical thinking skills. Dr. Barton's approach is to "ask a question and make a statement" about topics "which some people have not thought about before." From his perspective, this "helps them to really examine what they believe and what they don't believe and then either walk away kind of reinforcing what they believed or changing." Dr. Jansen also poses questions. For example, she sometimes puts forward questions about terminology – "words that we take for granted" – being used in class. She illustrated her point with this example:

> Last night we were talking about self-directed learning and autonomy, the hallmark of self-directed learning. And just from four different students, you know, question-response, whatever they were giving me – comments, I was sensing we were not all seeing the same "autonomy." So I did not want to pursue that, but I wanted them to have a chance to reflect and think about it and express it, so I do index cards. Some people call it one-minute writing. It's just a quick – I think it's in a book on assessment – anyway a lot of different people use it – but I asked them each to write their own definition of what "autonomy" was and how

> did they see it. I don't think it's as important that we come to an agreement on it, but I get their impressions. I can go over the cards. If I see a lot of difference and want to re-address the issue, I will.

Dr. Kinter makes use of questions, particularly as a tool to prepare students for discussion. "I usually give them questions to be thinking about . . . or I say to them, 'You come in with some [questions].' – and all of them do – before we start discussing in class." She also uses questions to "give them some way to interrogate their own oppressions, you know." From that, I gathered that she hopes her questions will cause students to think about those things that weigh them down – perhaps racism or too much emphasis on individualism – and diminish efforts to "build a civil society."

Ms. Cale poses questions about assigned readings rather than lecturing about them. She is particularly fond of "advance organizer questions" for two reasons. First, she feels these questions "are one key [to demonstrating critical thinking]." Secondly, she believes advance organizers "help students focus on at least what I think is most important" and "to think more analytically about what they're reading." Eventually, she moves toward having the students themselves "begin to take leadership in posing the questions."

Three participants talked about <u>lecture</u> as an instructional strategy. Only one participant stated in her interview that while she doesn't "straight lecture," she does give "lecturettes." When asked if this meant that she talks for a few minutes and then stops and has interaction with the group, she agreed this was her definition of "lecturette." Further she added that although she hasn't tried this strategy yet, she plans to start posing questions prior to the lecturette – questions which she will then answer during her

presentation. She believes such questions will serve as "a clue of what you're going to be talking about" and will help focus attention on the key points of the presentation. Dr. Adams also described a technique she borrowed from Steven Covey that helps people check the accuracy of what they believe they have heard a speaker say during a lecturette. For this strategy, she stops speaking every 15 minutes and has students talk with the person next to them about what they heard her say. The purpose of this exercise is to "make meaning" of the lecturette.

Two participants took a dim view of lecture as an instructional strategy. Ms. Cale, who "lecture[s] less each year," has turned to "other ways of providing the common substance." As indicated previously, she particularly likes advance organizer questions as a teaching strategy. Dr. Gabriel believes she is "not a very good lecturer" and "find[s] if I try to lecture to them, it bores me, and it bores them, I think, if I tell them what I think or take guesses at some main points." Her preference is to have the students "discover" meaning for themselves.

Four of the 12 participants specifically named debriefing as an instructional strategy they employ. Dr. Adams indicated frequent use of this tool.

> But after we do our exercises . . .[we] almost always do debriefing. "Now what did you think of the exercise we just did? What was good about it? What could be improved on it? Is this an exercise that you think you could use in situations where you are the adult educator?"

Dr. Duncan and her students do debriefing following role playing while Ms. Cale uses debriefing after videos. Dr. Inman uses this strategy after in-basket exercises to "help them [students] get at an examination of their attitudes" and after debates to "prompt their continued thought – otherwise, it's just an exercise of playing the devil's advocate."

In addition to the above facilitator behaviors which were shared by two or more participants, there were three other strategies which were named by only one participant. I include them here because I believe they add important components to the study. First, Dr. Gabriel supports risk taking.

> I quote Brookfield saying about the key point about going public with your learning and how important and significant that is to actually take the risk of speaking something, knowing that it could be received well or not by someone else. What a risk that is to offer. Someone else I quote is Doris Lessing saying, "The hardest thing to do is to disagree in a group." . . . So sometimes when people take an alternate view, I try to support their being able to kind of take a risk to do that.

A second facilitator behavior that I describe in this section is finding balance. Dr. Jansen works conscientiously to achieve balance between giving direction to students because "I don't want them guessing what the teachers wants," and "allowing for their own discovery." Finally, Dr. Gabriel interjected the importance of honoring students' ideas. She explained that she does this by "listening to and kind of amplifying people's statements . . . and acknowledging their understanding of something by reframing or paraphrasing it, and then they can add to it, you know." Ultimately, her goal is to give recognition to students and demonstrate that "their position matters, you know."

In this section, I discussed participants' perceptions of instructional strategies that they believe have an impact on student learning. Included in the discussion were collaborative learning strategies, self-directed learning strategies, and facilitator behaviors such as modeling, questioning, lecturing, and debriefing, as well as more general behaviors such as encouraging risk-taking, finding balance between teacher instructions and students' discoveries, and honoring students' ideas.

In the next section, I describe evaluation techniques used by participants to assess student growth.

Evaluation of Critical Thinking

Some participants, but not all, talked about ways they recognize changes in students' critical thinking skills. Analysis of the data revealed two key findings. First, because most participants do not hold up critical thinking as a specific objective in their courses, they do not purposely evaluate changes in students' ability to think critically. Dr. Adams articulated this position. When asked how she would know if students are actually developing their thinking skills, she responded:

> I guess you don't. I've never had it as an objective. I have never thought about it before, and I've never had it as an objective to develop their critical thinking skills. If I had it as an objective, I would then want to be able to measure that somehow, and I would probably do some more intentionality around it.

Second, those participants who talked about assessing changes in students' thinking tend to use informal rather than formal evaluation methods.

This section of the manuscript, then, reports participants' perceptions of how they know if students are making gains in critical thinking ability. I report the findings in two sections. First, I talk about who does the evaluation: self, peers, or instructor. Second, I discuss the kinds of data that participants gather to determine changes in students' thinking: subjective data or somewhat more objective data.

Who evaluates? From their comments, it is apparent that assessment of thinking skills, when it is done, is carried out informally by the instructor. Typically, participants infrequently use strategies such as self-evaluation or peer evaluation.

Six participants claimed to draw on self-evaluation to assess student development either in the area of critical thinking or in other areas. The chief vehicles they use for assessing student growth, via self-evaluation, are journals and portfolios. Dr. Jansen, you will recall, is enthusiastic about journal writing. She has also completed research and published articles on student self-evaluation and providing feedback on student performance. She asks students to engage in self-evaluation by rereading their journal entries and then writing a reflective paper. The results were "exciting," and she eagerly shared some of her "rich data":

> [There was] this woman, oh gosh, I can picture her, but I'm forgetting her name. She came to the class – very practitioner oriented. Did her job – which was taking the class because it would help her get a promotion. Wrote her journal once a week. It was usually pretty short. . . . Spoke up in class. She was active. But her journals – I just couldn't get her to move too far. But then her reflective paper where she went back, and she said, "I read over my journal, and you know what? I didn't have an open mind this whole semester." And, it was like – I couldn't have told her that. She had to discover it herself, and she did by going back and reflecting on her experiences through her writing. And it was just like – I think I stood up and danced when I read her paper.

Dr. Hutton and Ms. Cale have students reflect on the learning process and write about it in their journals – or, in Ms. Cale's case their journals or learning synthesis reports – which eventually become part of their portfolios. Ms. Cale clarified that "probably about one-third of the classes require journaling, and the others require the learning synthesis report or LSR . . . and some students prefer those." The LSR, in her words, works like this:

> We ask the students – this would be a typical assignment, written assignment – to write a three or four page paper in which they are not reporting on what they have been reading but rather their reaction to what they have been reading. So it's almost a left-hand/right-hand analysis [about] the information that they have been

> exposed to and their response to it. So we're interested in what the information has stimulated in them, and again we ask them to be analytical about that.

Dr. Hutton considers the process of journal writing a type of self-evaluation, "a metacognition." Ms. Cale disclosed that "students don't like" doing self-evaluation through journal writing and chuckled: "That's probably a good reason to continue to do it, however."

Dr. Inman acknowledged that student self-evaluation activities are minimal in her program but are included as part of the reading log or learning journals as well as interim and exit performance interviews. However, the faculty in her adult education program are "in the process of reconstructing our exiting requirements . . . and thinking in terms of a way we could add a self-evaluation component." Dr. Duncan revealed that self-evaluation is done within courses, but, despite the fact that she teaches critical thinking directly, she hasn't asked students to evaluate their critical thinking skills.

When asked if self-evaluation might be a useful tool for assessing students' thinking, Dr. Adams agreed it might "if it would be contextual and if it would be appropriate [for the content being covered]." Dr. Barton hasn't used self-evaluation to assess critical thinking but suggested that journaling might be an effective strategy for self-analysis. He does, however, engage students in a self- and peer evaluation project when he asks students to assess themselves on a particular leadership management topic and then have five to seven colleagues assess them, using the same survey instrument. The results are "interesting" in that students who often "view themselves in a poorer light than their colleagues do" feel "an unexpected joy" that "what they are doing is better than what they think."

Participants tended to make similar comments about peer evaluation as they did about self-evaluation. In other words, they typically do not use this technique. Dr. Jansen appeared ambivalent about peer evaluation. On one hand, when she was a student in a research course, she had a positive experience with peer evaluation, claiming that by reading someone's journal, "you would get new ideas or different ideas and different approaches." As an adult educator, however, she has mixed feelings about this strategy. She has experimented with having students share a draft of their papers with another person. "And I haven't found that to work" perhaps because sharing a paper which "should represent their best work" is fairly "high risk." Further, she claimed she isn't ready to have students share their journals with one another (even though she considers journal entries "low key"). If she were working with doctoral students, however, she feels she could introduce peer evaluation "a lot more easily" because "it would be a smaller class, people may already know each other, and I can see where there might be some safety." Still, she recognizes that if students evaluated one another's journals, the potential value would be "expanded communication between them [students]."

Dr. Jansen does, however, employ peer evaluation for student presentations. For this activity, student evaluators are assigned different roles (e.g., learners, directors). She believes this type of evaluation "usually has been a good experience." In summing up her perceptions about peer evaluation, Dr. Jansen made two significant statements. First, she believes peer evaluation, when used, should be low key and positive: "I think we need to be told what we do well more than we need to be told what's not going well."

Second, she considers the outcomes: "I'm not sure that critique should come from a peer. . . . I don't know what its effect or consequence could be."

Like Dr. Jansen, Dr. Duncan and Ms. Cale rely on peer evaluation of student presentations but not of critical thinking. Dr. Hutton makes use of peer evaluation by having teams of three people evaluate one another's portfolios. Finally, Dr. Inman uses peer evaluation for group work and selected writing assignments. In her advanced courses, students who are working on their thesis or dissertation "work very much in a collaborative stance with one another. As peer reviewers, they help one another with audit trails and member checks."

With this understanding of who does the evaluation – and it appears that most evaluation is done by the instructor rather than by peers or the students themselves – I turn now to the kinds of data that participants gather in order to determine students' progress. I present the information in two sections: subjective or soft data and objective or hard data.

Types of evidence. Most of the evidence of student development that participants talked about seems to be in the form of subjective or soft data; e.g., students' comments and non-verbal communication, including body language. Dr. Inman talked about seeing students "sit[ting] and sort of staring off into space sometimes" which she acknowledged could be evidence of critical thinking but "might be the late hour of evening class." She also stated: "But at the end of a course, I think our students would say that they are better able to do it [critical thinking] than they were at the beginning." Finally, she confided: It's a very subjective thing we ask students to do – to evaluate their critical thinking

ability and tendency – but clearly we see evidence of it in their increased tolerance for ambiguity and in some of the other ways we talked about earlier."

Similarly, Dr. Barton stated:

> You know, if it [critical thinking] happens within the context of a class, then you know they [students] may say something, or I may even kind of see it in their eyes or in their non-verbal communication and maybe ask about it, or it may be something that they cite or state in a paper, but I would say probably 95% of the time I may not know because I think it [critical thinking] is a highly personalized type of thing.

Later, as he thought about the outcomes of the exercise on agree/disagreement statements, Dr. Barton asserted: "People will actually indicate that now that they've thought about it [agree/disagree statement] or read about it, they're changing their ideas or they're changing their mind and beginning to rethink some of the thoughts."

Ms. Cale who "tries to make students uncertain" and who defined critical thinking as "posing better and better questions" cited the following as evidence of students' growth in critical thinking skills:

> What seems to happen over the course of time is most students become not only comfortable with that [uncertainty] but love it. Love it! They will start saying in their writing that they are embracing uncertainty, welcoming the fact that they have more questions at the end of the course than they had at the beginning of the course. So they are literally expressing those ideas.

She believes that the indicators of enhanced critical thinking rest in "self-confidence, self-efficacy, a clear sense of what they think about not only adult education but who they are in the world and what they want to accomplish in the world." She continued:

> You know we've been seeing the students after they graduate. Yeah, I think they really take pride in – obviously, this is not every student, but the majority of the students – they view themselves and they view their world both more confidently and more critically than when they came in, and I would say more so than students who are their peers in other graduate programs. A lot of it is the

> confidence. If you go to challenge your own thinking as well as the thinking of someone else, it's got to be from some kind of a base of self-confidence.

Much of the evidence of student growth is anecdotal as Dr. Lewis pointed out:

> I have lots of kinds of anecdotal evidence that they've changed, but not in any kind of measurable way, not in any kind of testing way. You know those "aha" experiences when people say, "Yeah, wow!" And you know – I mean not just in the moment – but where you can see where their fundamental reorientations are there, a new way of looking at the world. I've seen a fair amount of that over the 20 years I've been a faculty member.

Another example of anecdotal evidence came from Dr. Kinter: "I see transformations going on my class all the time, you see, and I don't think you have be a big transformationalist – because transformations, you see, come from small pieces at a time." In support of her view, she told this story:

> Well, like right now I've got this kind of middle-class bourgeois Black who is a sociology professor at a community college, and he's very tight. Do you know what I mean? He's on guard all the time, and the way he learns – his style is to inundate you with other kinds of books or other kinds of ways of doing things, not so much with the way he is thinking. . . . "I'm telling you," he says, "this class really makes you think." And he started really saying what he thought. Then he asked me the other night what else I was teaching next semester. So I thought to myself, "I got a guy here who is thinking, and I would never have thought – I just figured he was not going to go very far in this class because he is pretty tightly framed."

When asked what evidence she had that students were beginning to think more critically, Dr. Duncan zeroed in on student discussions. First, she explained what she looks for in small group discussions that would indicate students are thinking critically:

> Well, you have to follow the discussion and see what is being said. And so if somebody says A and somebody else says B, and the next person says "If you put those together, you end up over here." Or they just rave without giving that preface. So you really have to watch what they're talking about to make those judgments – because you're right – they don't come out and say "Okay, now that I've critically reflected on this, I think, you know, this happened." But that's a

> very intense experience to engage in discussion like that and to be monitoring it for those things as you're going along.

Dr. Duncan also described how she facilitates large group discussions and monitors for growth in thinking skills:

> . . . it's a very hard and fast experience. I feel like a bronco rider sometimes, because conversation starts going, and we're exploring good ideas, and things build, and you're trying to make sure people are heard and connections are made. It's a very dynamic activity to evaluate the critical thinking in discussion.

In addition to small group and large group discussions, Dr. Duncan uses learning contracts with students in some courses. The indicator of progress, as she sees it, is "they usually begin to gain confidence."

Beyond the soft data described above, eight participants discussed what I consider to be more objective ways of determining students' growth in critical thinking. In every instance, the assessment involved students' written work. As Dr. Inman put it:

> I think we can see it [critical thinking] in their writing. They are less concrete in their assertions about things. They ask more questions and impose more dilemmas and speculations [rather] than impose comments like "I think." They'll say things more like "Well, I wonder" or "It occurred to me that" and then finish the statement.

Dr. Duncan agreed that the nature of students' questions is one criterion for assessing growth in students' critical thinking skills and added other criteria:

> It's much easier in written papers to be able to tell [if students are thinking more critically], and you can see whether they've taken information and bridged it into something new. You can see whether they've taken information and really asked hard questions about it as to whether it fits their environment, whether it's true in all settings, whether it's true in a specific setting – questions like that. They're really asking questions and challenging themselves.

Ms. Cale expects "the quality of the writing to improve" and believes improvement happens over time as students begin to "develop their own voice" (which,

from her perspective, is an outcome of critical thinking). The criterion that indicates their growth is: "What is the strength of their understanding of whatever it is in relation to the person and the professional that they are becoming?"

Dr. Hutton delivered a slightly different perspective although I believe his views might have been spoken by most participants in this study:

> I think that when I assess written work, written papers, I think that I would probably comment on or give credit – higher credit – to those students that show some critical thinking, but it's not something that I look for specifically. I don't say that I'm going to grade these papers on your critical thinking skills, but I think the critical thinking creates a better paper and those who do so get better grades on those papers.

In the same vein, when Dr. Gabriel assesses students' writings, she doesn't "consciously look at a particular person and how this person moved." Rather, she looks to see if there is "much more a sense of owning – you know, ownership – you know, like this is their take on things." Despite the vagueness of this criterion, in the course syllabus, Dr. Gabriel wrote out the following guidelines for evaluating student papers: (1) clarity of expression, (2) logic in the presentation of positions and conclusions, (3) organization that builds a coherent structure, and (4) evidence that supports the writer's statements and opinions.

Four participants talked about students' journal writing as a mechanism for determining change in critical thinking. Dr. Duncan referenced "reflective journals" which are intended to have students "steer towards application but also to say, you know, 'What does this mean for me?' To really think about . . . how it fits in where they are coming from, where it might lead, the veracity of what they're hearing." Dr. Jansen also talked about what happens during the process of journal writing: "[for some] there hasn't

been any change or there really hasn't been any reflection. But others have some of those aha's." Ms. Cale submitted the criteria by which entries in students' learning journals are evaluated: (1) ability to articulate **your** thoughts and feelings about key issues in adult education, (2) attempts to make meaningful connections to the course readings, and (3) clarity of thinking and writing. Finally, Dr. Inman believes she "sees it [evidence of critical thinking] in their journals" as well as in "learning portfolios" which she defined as "a collection of artifacts that can be anything . . . and can be in any form that evidenced their learning and perspectives."

Dr. Lewis thought a bit before responding to the question of how he could tell if there is any gain in students' critical thinking skills. Then he said:

> That's a hard question. I mean at one level I know they've at least attempted it because the final project of the program management class – what they do is they take the program that they've planned, and then they write a critique of the program and a critique of their planning process using three different theoretical frameworks. So that's one part of the exam, and then the second part of the exam is to give a speech to people who are taking on their first program planning assignment on what really matters about planning programs, and part b of that is – they did this thing at the beginning of the class where they wrote down their beliefs – so I have them compare what they're saying now to what they said at the beginning. So at the instrumental level, I know they at least attempted to look at their assumptions and view of the world critically. Whether people change, I don't know how you can tell.

Like Dr. Lewis, Dr. Barton does an informal type of pre- and post exercise, using the agree/disagree statements to assess whether students are thinking more critically.

> I will see what they first thought in terms of their agreement or disagreement, and based on the course work and the readings, what they're thinking now. And how they may have affirmed or they may have changed based on the writing and the citations and the references and the thoughts that they put down on it. . . . So I think I can assess some level of their ability to critically analyze or assess or think in that way.

In his usual blustery manner, Dr. Farrell offered a unique perspective on the assessment process. In my mind, he seemed to overemphasize grades and the grading process while overlooking more substantive criteria:

> I intensely critique their writing, intensely critique their writing, but give them a chance to rewrite. Is that a process of reflection? Yeah. They've gotten feedback. And essentially I give them a grade. Grades are required because the system requires it. So I essentially give them terrible grades, terrible grades – 50's, 40's – and some of them come back and say, "I can't believe I'd get a grade like that." I say, "Welcome to graduate school." Now is that a smart-ass comment? Possibly. But it's also a message that essentially says within the context of what we're talking about, you are at the level now of graduate work where the playing field is higher, more demanding. The standards are higher. You better realize this now. And so there is an opportunity for feedback, reflection, and also rewrite, and most of them take it on, and they do all right.

In this section, I discussed participants' perspectives on evaluation. I presented their views on who does the evaluation (instructor, self, or peers) as well as on what kinds of data they analyze to determine if students have improved their thinking skills. Much of the evidence was subjective or soft data with a heavy reliance on anecdotal evidence and some dependence on non-verbal communication. On the other hand, participants also used more objective data when they assessed students' writings.

In the next section, I discuss participants' perspectives of the importance of critical thinking in the field of adult education.

Importance of Critical Thinking

The final theme that emerged from analysis of the data was: What do graduate faculty perceive as the importance of critical thinking in adult education? The place attributed to critical thinking depended on participants' perceptions of the value of critical

thinking, the pressures they felt to teach critical thinking skills, and the competition for attention in the adult education curriculum.

Beliefs about the Value of Critical Thinking

One way that graduate faculty talked about the importance of critical thinking was by stating their beliefs about the value of critical thinking. Participants conveyed a wide range of beliefs. Among those who placed critical thinking at the center of the adult education curriculum were Dr. Jansen who believes critical thinking is the goal of adult education (see p. 92) and Ms. Cale who believes the adult education faculty at her university spend "very close to 100%" of their time attempting to enhance the thinking skills of students in advanced courses and "well over half" of the time in "skilled courses." Apparently, their emphasis on critical thinking has been recognized by students. In promotional materials for the program, a former student who is now an adult education teacher is quoted: "The program transcends typical classroom curriculum: a powerful mix of critical thinking, reflection, and experiential learning allows students to explore, create, and discover solutions to today's challenges."

Dr. Eaton declared that he thought critical thinking skills "would be at the top of the pyramid" in terms of important skills that students need when they go out into the real world today. At the same time, however, he apologized for not knowing more about critical thinking: "I probably need to understand the area stronger than I do. I need to do a little more research and understand it."

Another strong advocate is Dr. Duncan who portrayed critical thinking as "the hallmark of adult education" and "one of the greatest gifts you can give adult learners":

> I say that because . . . one of the things that really opens up growth and development and opens up future learning is critical thinking. So no longer are people tied down to the way they were brought up to look at things or the way that they currently look at things. They can instead look at the things around them and evaluate them and make decisions for themselves.

Dr. Duncan's espousal of critical thinking may stem, in part, from her research interests which include significant work in the area of perspective transformation which she and others see as having links to critical thinking.

In some of her courses, Dr. Duncan approaches critical thinking indirectly, allowing students to discover it; in other courses, she explicitly teaches critical thinking:

> Because I'm teaching teachers and because of my research, I haven't addressed it directly in some classes. I've kind of just listened and watched and read their journals. And they start talking about critical thinking skills because it's so important for state standards, and they're seeing the connections right away in what we're doing in the classroom. So they are making those connections themselves. In the adult ed courses where I specifically teach teaching strategies or adult learning theory, then we talk about critical thinking skills. So they really come away with that as an important piece.

At one point in the interview, Dr. Duncan described what happens when the teachers she works with understand how they can use techniques and technology to foster their students' critical thinking skills. "It's just like light bulbs go off everywhere" when "teachers see how they can integrate critical thinking to help their students become critical consumers [of information on the Internet]."

Like Dr. Duncan, Dr. Hutton believes "people need to be critical thinkers" particularly in today's information society. Noting the easy access to information through the Internet and other electronic sources, Dr. Hutton observed:

> . . . the information isn't all necessarily reviewed and critiqued and canonized before it's made available to people . . . it puts greater responsibility on the user to

> critically evaluate the literature base from which they are drawing . . . and that's where critical thinking and critical analysis of materials comes in.

Although he does not teach critical thinking skills directly, Dr. Hutton believes "it just occurs as I am teaching," a perception held by other participants; namely, Drs. Barton, Inman, and Lewis.

Dr. Barton carefully explained that critical thinking is not an explicit objective of his courses but is "part and parcel of what is done." While uncertain that critical thinking needs to be "propelled to another level" in adult education, he wondered if there should be "a specific curriculum on critical thinking where we really analyze what it is, what people are saying about it, how people are developing that within students, assessing it, etc., etc."

Similarly, Dr. Inman observed that critical thinking is not a "stated objective" of the adult education program in which she works. However, "development of a reflective capacity" is an articulated objective and goal of the program. She and her colleagues in the adult education program expect students "not to accept out of hand our word for anything. We expect them to be critical of the literature, the text, their own and their class members' comments, and then continue that skill development in their own practice." While she believes teaching critical thinking is a "difficult exercise," Dr. Inman also finds it "rewarding" and attempts "to a significant degree" to foster students' thinking skills.

Like so many of the other participants, Dr. Adams does not cite critical thinking as "an intentional goal or objective" of her courses, but she believes critical thinking is important:

> . . . the more we know about how we think and how we learn, the more likely we are to be lifelong learners, and I think it is extremely important that we understand the need for us to accelerate our current thought on lifelong learning.

"Critical thinking is important in people's everyday lives." Having said this, Dr. Lewis added that the value of critical thinking is dependent on (1) how one defines the construct, and (2) what one "critically thinks about." If critically thinking means people "reflect on their own experience, realities" as "illuminated from multiple perspectives" (Dr. Lewis' conceptualization), then fostering critical thinking is "the most important thing" Dr. Lewis does in his classes. In fact, he believes "the whole instructional process is a critical thinking process." Like Drs. Barton and Inman, he "doesn't actually teach critical thinking" directly; he "just does it." However, if critical thinking is viewed as "a decontextualized process of helping people uncover their assumptions and reflect on the world," then Dr. Lewis has no interest in facilitating it.

Four participants talked about the popularity of critical thinking in the field of adult education. Whether popularity indicates importance, however, was debated by participants. Dr. Hutton seemed to capture what others were feeling:

> Within the field of education, I guess, my first reaction is it [critical thinking] is a well-defined concept that I would call a bandwagon concept that everybody wants to get on board, and people are using it in a variety of ways and with a variety of definitions. I think that it is used to the point that it is applied in such a diversity of contexts that it loses its meaning.

Dr. Farrell suggested that, in practice, critical thinking is "getting fair treatment" as "one of the concepts, one of the theories that is expounded" by adult educators. But he seemed annoyed that "a lot of consultants are making money on it" and "businesses are buying into it as the latest fad." Even Dr. Jansen (remember she is the one who held up

critical thinking as the goal of adult education) is "getting tired of it." Although she sees the concept as "exciting and new to people when they come to class," it has become "a stale term."

Finally, Dr. Kinter lamented the type of critical thinking she sees "popping up everywhere." This current concept is a far cry from the past "when there was a real notion of trying to be critical about what is going on in our society, a radical critique."

> Then suddenly I see all of these professionals doing critical thinking, and I'm looking at what they are doing. I just see them doing action – but what are they doing? They are still objectifying their client or their patron or their patient. . . . They are objectifying them and they [are] still "Daddy Knows Best," you know. We've got the knowledge.

The importance of critical thinking in adult education is explained only partially by adult educators' beliefs about the value of critical thinking (presented above). We turn now to another factor that influences the amount of attention adult educators give to critical thinking.

Pressures to Teach Critical Thinking Skills

The importance of critical thinking in adult education appears to be impacted by two pressures – one external and one internal – that emerged from the data. I will discuss the external pressure first.

External Pressure

One participant pointed out that state, national (e.g., National Council for Accreditation of Teacher Education [NCATE]), and association (e.g., International Reading Association) accreditation standards have put pressure on educators to teach

critical thinking skills. Dr. Duncan, with advanced degrees in both adult education and higher education, is familiar with the accountability requirements of various standards. She explained that existing state and national standards for teacher preparation programs include critical thinking skills. To comply with the requirements, teachers must go beyond "reiterating what the professors tells you" to using critical thinking skills such as analysis and synthesis in their work. In fact, some accrediting bodies examine schools' syllabi for indicators that critical thinking is being covered and evaluated in the curriculum. As a teacher of teachers, Dr. Duncan responds to this pressure by teaching critical thinking (or critical reflection) in her courses. A review of syllabi for three courses she teaches indicated coverage of topics such as "the reflective individual" and assignments such as "write a reflective critique." Dr. Duncan's qualifications for teaching critical thinking/reflection include research, publications, and presentations on perspective transformation. Mezirow, Cranton, and King and Kitchener have influenced her work.

Internal Pressure

The internal pressure was identified by Dr. Adams who pointed out that adult educators have a different responsibility for teaching critical thinking skills than other faculty, say in higher education or in elementary/secondary education. Her premise was that successful adults need to be critical thinkers. By helping their students understand concepts which are the purview of adult education – concepts such as adult development and how adults learn – adult educators are in the best position to effect critical thinking in adult learners.

Competition for Attention in the Adult Education Curriculum

The importance of critical thinking also can be assessed by examining its competition. Three factors appear to compete for attention in the adult education curriculum – time, the complex nature of critical thinking, and faculty beliefs about students' interests.

Time Available for Teaching

Participants talked about time in two ways. First, some participants talked about the total time available for teaching the adult education curriculum. Second, two participants talked about how teaching weekend courses could impact the teaching of critical thinking skills.

Four participants identified lack of time as a factor that inhibited the teaching of critical thinking skills. Dr. Barton summed up his position by stating that with all the new information available which he wants his students to understand, "I can't say that my courses are solely for developing critical thinking skills."

Dr. Farrell voiced similar concerns. Throughout his interview, Dr. Farrell raved about the limited amount of time "within the framework of a 12-course, 36-credit hour [program]" to teach "all the skills that a person must have in their [sic] portfolio of expertise in order to be the eclectic professional they will need to be when going out in the field to work in an organization or to work in an agency." Repeating this "no time" mantra, he pontificated:

> . . . [we] don't have the time to fully apply it [critical thinking] in any course in our program. I'm talking about the actual practice of critical reflection and doing that both gaining an understanding and then within a classroom lab environment,

> going out and applying it within an outside area, and being able to come back and reflect on that process.

How courses are formatted for time was a concern expressed by Drs. Gabriel, Adams, and Barton. Describing the "concentrated course" she teaches for the military in Germany, Dr. Gabriel stated she "tries to be realistic about the work, you see" which means she forgoes certain assignments that might enhance thinking skills.

> They [students] are already doing so much during the week, like they work all day, and they have the class all evening from 6:00 until 9:30, all day Saturday, all day Sunday. . . . This is the critical literature class, you know, where they read the six books, and they are not only attending class and trying to remind themselves of what they've read, but they're also working on their final presentation that they have to do on Sunday. . . . So it would just be another burden if I had them do that [keep journals].

Dr. Adams indicated that her institution's weekend format for courses may not be especially conducive to teaching critical thinking skills. She observed that when classes meet on Friday evenings, 5:00 – 10:00 p.m., and all day Saturday, there are periods of time when mental activity can be expected and other times when it cannot. For example, on Friday evenings, after "people have been in stressful jobs all day" and "may have driven an hour or two" to get to class, "after about 8:00, you start doing . . . activities that have more movement to them and that maybe aren't quite as deep of thinking." The same is true on Saturdays after lunch for an hour and then again after 3:00 p.m. After weighing the difficulties of teaching weekend courses, she speculated "it would probably be easier to foster critical thinking skills in a shorter class period of time that is distributed throughout the semester."

Dr. Barton expressed similar concerns about weekend classes. "I mean there are some times when you get into some more deep topics because you have more time, but

there is a fatigue factor that is evident, you know, on weekend classes in the sense of drudging through especially on Saturday afternoon." However, he indicated the solution to this problem rests with the "type of method that you bring into it and the activities that you bring in that can get you through that."

While some participants bemoaned the lack of time available for teaching, one participant described how she gets involved with students and advisees outside of class time. Dr. Kinter, despite her years, seems to have boundless energy, and continues to work long hours with projects of interest to her. For example, she attends monthly meetings of a group of 10 to 12 doctoral students who are working on their dissertations. The group is known as "the Live Poet's Society . . .[because] we need 'live poets' – that's what we want – we're creating knowledge as we go. . . . and it takes a village to get a dissertation done. Right?" In addition, Dr. Kinter spends evenings and week ends, working with an African American community action project, helping students do participatory research on issues that matter to them, teaching them how to conduct their own conference during which they present research findings, and helping them learn how to publish conference proceedings.

In summary, participants' beliefs about time help them decide what to include in their curriculum and how to work with students outside scheduled class time. In addition to time, participants talked about the complexity of critical thinking. This perception emerged as the second "competition" related to the importance of critical thinking.

Complexity of Critical Thinking

Although the nature of critical thinking was addressed in greater detail earlier in this chapter (see the section on conceptualization of critical thinking), its complexity is cited here as a factor that impedes instruction. For example, Dr. Inman acknowledged that critical thinking is "a difficult concept to get our arms around" which "lessens our tendency to teach it." Similarly, Dr. Farrell noted that "implementing it [critical thinking], putting it into practice, takes a considerable amount of effort, time, and energy." Contrary to what some "pop psychologists" would have us believe, critical thinking can't be done in "six easy steps."

Faculty Perceptions of Students' Interests

Dr. Adams attempted to view critical thinking through the lenses of adult education students and wondered if they "might have a harder time getting into" critical thinking

> . . . because it is so abstract and so intangible, and it may seem like a total waste of time to many people – even, unfortunately, maybe some graduate students in adult education, maybe especially those that might be in an extremely pragmatic corporate private enterprise situation where the pressures are on them constantly to just be pouring out and delivering more and more courses to improve performance. So to take time away from the measurable behavioral things that you need for performance improvement – the time would have to come away from that – to sit back and think about our thinking.

Dr. Hutton offered another possible explanation about why students might not want to engage in critical thinking:

> At the same time, I think there are some students . . . that just seem unwilling to do that [think outside the box]. There is security in staying within the box, so to speak. To raise questions that are unfamiliar or lead them into unfamiliar

territory – unfamiliar kinds of perspectives can be discomforting, and there are some students who tend to refrain from that.

Summary

In this chapter, I presented the findings of the study based on analysis of interview transcripts, documents, and my field notes. Findings were discussed in four parts which corresponded with the major themes that emerged from the data. Data in the first section focused on what graduate faculty in adult education discern as the goals of adult education. Analysis of the data showed that participants perceive that student development is the primary goal of adult education. In that section, I described the two broad categories of student development that emerged from the data: (1) personal development, including the development of instrumental skills, psychological skills, and self-concept; and (2) sociocultural development with an emphasis on social reform.

The second section focused on how graduate faculty in adult education conceptualize critical thinking. Participants described varied understandings of the meaning of critical thinking. However, an analysis of the data resulted in two broad categories: narrower and broader conceptualizations of critical thinking. I placed participants' responses into the categories according to their perceptions of four general criteria: attributes or characteristics of critical thinking, whether an individual or group was engaged in critical thinking, the process for doing critical thinking, and the purpose of critical thinking.

Data in the third section concentrated on the beliefs that graduate faculty hold related to the impacts on their teaching. Two key factors emerged from data analysis:

contextual factors and beliefs about pedagogy. Participants perceived that two contextual factors – student diversity and the nature and level of courses taught in adult education – impacted their teaching. Regarding pedagogy, participants' teaching was impacted by their beliefs about the learning environment, curriculum, teaching processes, and evaluation methodology.

The final section reported findings related to participants' perceptions of the importance of critical thinking in adult education. The importance they attributed to critical thinking depended on their views on the value of critical thinking, the internal and external pressures they felt to teach critical thinking, and factors they believed competed for their attention. Time, the nature of critical thinking, and participants' beliefs about students' interests emerged as the competing factors.

Chapter 5

DISCUSSION, CONCLUSIONS, QUESTIONS AND IMPLICATIONS

My purpose in this study was to understand the meaning of critical thinking in adult education. I conducted unstructured, face-to-face interviews with twelve adult educators who currently teach or have previously taught graduate level courses in adult education programs in institutions granting advanced degrees in adult education. I also reviewed documents submitted by participants and my own field notes. Data were analyzed to gain insight into the research question: "What are graduate faculty members' perceptions and perceived practices of critical thinking in adult education?"

While the purpose of the study was to discover the meaning of critical thinking in adult education – and it was important to start there – through data analysis, I observed a shift in the focus of the study. Although the center of the study remains critical thinking, the heart of the matter came with a look at "critical reflection" or "criticality." This evolution took place because the current debate in the field of adult education also was played out in my study. In brief, the debate is whether the goal of adult education should be for personal or social development. Discussion of the goal(s) helped uncover participants' understanding of critical thinking and criticality. Those who argue for social development believe the vehicle for reaching the goal is criticality and not critical thinking. The contest between goals, and subsequently between critical thinking and criticality, altered the focus of the study and made it difficult to answer the research question clearly and unequivocally.

This chapter discusses the findings of the study, offers conclusions, raises questions, and presents implications that emerged from the study.

Discussion

Four themes became apparent from analysis of the data and were presented in detail in Chapter 4. The themes revolved around graduate faculty members' perceptions related to the goal of adult education, conceptualizations of critical thinking, impacts on pedagogy, and importance of critical thinking. Interestingly, two of the four themes – goal of adult education and impacts on pedagogy – are only indirectly related to critical thinking which was the original focus of the study. Still, the four themes are interrelated as revealed in the discussion that follows. The themes will be discussed in the order they were presented above.

Few current and relevant empirical studies could be found related to the themes of this study. However, there was a wealth of theoretical literature to which findings could be compared to gain a clearer understanding of the meaning of critical thinking in adult education.

Goals of Adult Education

The literature as well as the findings of my study indicates there are ambiguities and tensions in the field related to the goal of adult education. The literature outlined the shifting goals of adult education over the past 80 years, and participants in this study confirmed varied, even conflicting, goals for adult education.

Given the initial focus of this study, I begin with a discussion of critical thinking. In the adult education literature from 1987 to 1994, the development of critical thinking skills was generally acknowledged as one of the goals of adult education (Brookfield, 1987, 1994b; Brockett, 1991; Candy, 1991; Mezirow & Associates, 1990; Peters, Jarvis & Associates, 1991). In fact, theorists claimed unequivocally that critical thinking had become a primary and essential function of adult education (Brookfield, 1987; Garrison, 1991).

In contrast to the literature, participants in this 2000 study did not identify critical thinking as the goal of adult education. In fact, some participants did not seem to be familiar with the literature on critical thinking; others seemed to hold up critical thinking as significant to the field but not as its goal, and still others rejected the importance of critical thinking and promoted instead "criticality" (defined as "critical reflectivity" or "radically thinking about what's going on in the world").

Participants perceived student development, rather than critical thinking, as the goal of adult education. Their responses could be divided into two broad categories of student development: individual development and social development (which could be visualized on opposite ends of a continuum). This finding reflects current literature (e.g., Cunningham, 1993; Heaney, 2000; Merriam & Brockett, 1997; Podeschi, 2000; Quigley, 2000). For example, after tracing the goals of adult education over the years, Heaney (2000) concludes: "At times the field has emphasized social purposes; at other times (more frequently, in fact) it has emphasized the development and advancement of individuals" (p. 559). In fact, part of the current tension in the field is the debate about

whether adult education should maintain the status quo (i.e., continue to promote individual development) or change it (i.e., work for social reform) (Brookfield, 2000; Griffin, 1991; Jarvis, 1985). Various aspects of this tension have been woven into the following discussion.

Study findings disclose a second "goal" tension; i.e., which aspect of individual development should be emphasized. Participants disagree about three possible goals: (1) development of individuals' technical or instrumental skills, (2) development of individuals' cognitive or rational skills, or (3) development and enhancement of individuals' self-concept. Participants who view technical skills as the goal of adult education argue that adult educators are "obligated" to provide their students with the instrumental skills necessary for getting and keeping jobs. Further, they described their students as pragmatic adults, interested in gaining or honing "performance" skills to advance their careers. This finding reinforces existing literature that cites technical or instrumental skills as the current and prevalent focus of adult education (Cunningham, 1993, 2000; Heaney, 2000; Merriam & Caffarella, 1999; Usher, Bryant, & Johnston, 1997). Specifically, the literature described this goal as the "meeting needs" rationale for justifying adult education practice (Brookfield, 2000, p. 41) with emphasis on functional skill building for meeting the demands of a capitalist economy; i.e., economic productivity (Sparks & Peterson, 2000).

Some participants in this study, however, resist the instrumental goal, claiming that it reduces the field of adult education to a practice of techniques and, in fact, aligns adult education with corporations whose interests are making profits, often at the expense

of "oppressed" workers. This position was also reflected in the literature (Cunningham, 1993, 1996, 2000; Ewert & Grace, 2000; Heaney, 2000; Podeschi, 2000; Quigley, 2000; Welton, 1995). Theorists offered several reasons for contesting this goal. First, opponents consider the instrumental skills approach a "deficit model" of education whereby people are assumed to "be deficit" or lacking knowledge. The solution, therefore, is to transfer information (new skills) to them (Cunningham, 1993; Ewert & Grace, 2000). Consistent with the literature, one participant in this study wrote:

> The power to label people deficient and declare them in need is the basic tool of control and oppression in modern industrialized democratic societies. The agents with comprehensive labeling power in this society are the helping professions. Their badge bestows the caring authority to declare their fellow citizen "clients" an underclass of deficient people in need. In fact, they have developed a deficiency discourse in which they essentially blame the victim.

Second, the needs being met in this "meeting needs" model of adult education are not the needs of students but of corporations (Brookfield, 2000; Sparks & Peterson, 2000) and institutions that "pursue undemocratic goals and engender inequities of cultural and economic power" (Heaney, 2000, p. 567). The results, critics claim, are "effective management and skills specialization" but also "a loss of commitment to others" (Podeschi, 2000, p. 620). Quigley (2000), who views individual development as "personal underdevelopment" (p. 218), believes adult education is "losing its founding vision" (p. 209):

> If we [adult educators] primarily frame our purpose around individuals and choose to remain aloof from the social policy opportunities afforded by the democracy we so obviously take for granted, I cannot see how we can fulfill our historical mission, be significant advocates for lasting societal change, defend the field we now have, or make a meaningful contribution towards a fuller civil society into the future. (p. 211)

In contrast to those who envision a technical goal, some participants in the study view students' psychological development as the goal of adult education. They believe adult education should help people develop their cognitive skills, thus enabling them to self-reflect on their assumptions, examine issues, and make decisions that can improve their lives. These findings support adult education and cognitive psychology literature from the 1980s and early 1990s (Apps, 1996; Boyd, Apps, & Associates, 1980; Brookfield, 1987; Daloz, 1986; Knowles, 1980; Mezirow & Associates, 1990; Schrag, 1992). In fact, Brookfield (1987) believed the development of these psychological skills would prepare students for their major life roles – in the workplace, in their personal relationships, and in their civic responsibilities.

Among those participants who feel individual development is the goal of adult education are those who believe the primary focus should be on fostering students' self-concept. They cite the importance of students developing an increased understanding of themselves as learners and professionals. They hope the adult education program will help students discover "what they stand for" and "their place in the world." This finding coincides with data found in the existing adult education literature (e.g., Clark & Dirkx, 2000; Merriam & Caffarella, 1999; Mezirow, 1991) and the literature of developmental psychology (e.g., Kohlberg, 1969; Levinson, 1978; Maslow, 1968).

While some participants in this study object to the personal development goals discussed above, their concern is not that these goals are not worthwhile but that they don't go far enough – they remain at the level of the individual rather than moving to the social level. Their position mirrors that of Eduard Lindeman, the father of adult

education. Lindeman (1926) envisioned "a bilateral though unified purpose of adult learning" which included a "short-time goal of self-improvement" and a "long-time, experimental but resolute policy of changing the social order" (p. 105). Although Lindeman apparently did not sense a "duality between societal change or individual learner needs" (Quigley, 2000, p. 212), adult educators today seem to side with one or other of these two goals as both my study and current literature indicate.

With this in mind, I turn to the final perspective on the goal of adult education. Unlike their peers, two participants champion a social development goal, insisting that adult education has a responsibility to engage learners in building a more just society. Further, they align knowledge with power. Believing that all people are capable of producing knowledge and that knowledge is socially constructed, they invite people of diverse backgrounds to participate in education and to "construct knowledge" by co-learning with others. This perspective also is found in the literature which posits that "[k]nowledge can be both expanded and connected through attention to its cultural embeddedness and to the standpoints that arise from the life experiences of socially marginalized groups" (Michelson, 1997, p. 44).

Participants' support for a social goal reinforces existing education literature beginning with Dewey (1964) whose writings and lectures from the 1890's until his death in 1952 focused on "the myth of rugged individualism," the social acquisition of knowledge, and the importance of collective efforts on behalf of the common good. Although the social reform goal was at the heart of adult education in its formational years (Heaney, 2000), it was overtaken by the individual development goal beginning in

the 1930's. Only recently has social reform begun to experience a resurgence (Wilson & Hayes, 2000) and, in fact, has gained prominence in the literature of popular (or radical) education, a form of adult education that "encourages learners to examine their lives critically and take action to change social conditions" (Kerka, 1997, p. 1). The social reform theme also is prominent in the recently published Handbook of Adult and Continuing Education (Wilson & Hayes, 2000) which I refer to as the Handbook from this point forward.

Popular educators attempt to develop "people's capacity for social change through a collective problem-solving approach emphasizing participation, reflection, and critical analysis of social problems" (Bates, 1996, pp. 225-226). What they advocate, in brief, is a "reordering of the social system" (Quigley, 2000, p. 218) through community-based initiatives and alliances across organizations. Examples include Freirean-inspired projects and forms of participatory research for action. While creative projects have been implemented by popular educators, such projects have been mistrusted by governments and consequently have received less funding (see Griffin, 1991).

In addition to the popular education literature, several chapters in the Handbook (e.g., Cunningham, Heaney, Podeschi, Quigley) are devoted to the promotion of a democratic society. The final chapter, for example, summarizes the editors' understanding of the goal of adult education: "We do believe that adult educators should work towards social rather than individual ends, but we also feel that adult educators need to contribute to new visions of society" (Hayes & Wilson, 2000, p. 673). Further, they noted the prevalence of this theme throughout the Handbook: "A common argument

across chapters was that adult educators should question theories and practices aimed at individual and economic development and move towards perspectives that emphasize improved conditions for groups and communities" (Hayes & Wilson, 2000, p. 672). In another chapter of the Handbook, Quigley (2000) argues for "recovery of a fading dream" and outlines some ways adult education can find "a more meaningful role in helping realize a more just, more caring, more equitable civil society for all" (p. 210).

The findings of my study both confirm and disconfirm existing literature. Support for critical thinking as a unifying framework for adult education is found in the literature but not in this study. On the other hand, both the literature and study findings agree there is a tension between personal and social goals with dominance currently residing with individual development. In fact, participants in this study may be representative of graduate faculty in adult education in that more of them (ten participants) side with the individual development goal than the social development goal (two participants).

Conceptualizations of Critical Thinking

A second theme that emerged from data analysis was participants' conceptualizations of critical thinking which sometimes parallel and other times conflict with the literature.

In the literature, adult educators tended to share a definition of critical thinking as a process of questioning one's assumptions, exploring new ways of thinking, weighing alternatives based on available information and input from others, forming solutions, and

acting on those solutions (Brookfield, 1987, Darkenwald & Merriam, 1982; Garrison, 1991). Thus, critical thinking – as described in the literature – focuses on real world problems, emphasizes reflection and action (i.e., praxis), and moves from an individual (internal) process to a social (external) process. This conceptualization is anchored in Brookfield's (1987) frequently quoted definition of critical thinking as a two-fold activity: "identifying and challenging assumptions" and "exploring and imagining alternatives" (pp. 15, 229). It also is closely aligned with the perspective transformation literature (Mezirow, 1991) which suggests that people make meaning of their life experiences and transform their individual behaviors by reflecting on their assumptions, dialoguing with others, and taking appropriate action based on their new understandings.

Similarly, the organizational literature (often referenced by adult educators, particularly those teaching human resource development courses) conceptualizes "mental models" in much the same way as adult education literature describes critical thinking. Mental models are characterized as "deeply ingrained assumptions, generalizations, or even pictures or images that influence how we understand the world and how we take action" (Senge, 1990, p. 8). The process of mental models also corresponds to the critical thinking process:

> The discipline of working with mental models starts with turning the mirror inward; learning to unearth our internal pictures of the world to bring them to the surface and hold them rigorously to scrutiny. It also includes the ability to carry out "learningful" conversations that balance inquiry and advocacy, where people expose their own thinking effectively and make that thinking open to the influence of others. (Senge, 1990, p. 9)

While adult education and organizational literature offer a fairly uniform understanding of critical thinking (or mental models), findings from this study yielded

greater variance in definitions. This may have occurred because most participants have received little or no formal training on critical thinking, and some participants seem to have given little thought to the concept. In contrast, other participants seem to be familiar with the literature, could attribute their understanding of critical thinking to specific theorists, and have made mindful decisions about how critical thinking is addressed in their practice. Another possible explanation for the variation in participants' responses is that critical thinking is a complex construct and thus can be interpreted in many ways.

In concert with the literature, participants in this study view critical thinking as an "examination of assumptions," the first part of Brookfield's (1987) definition of critical thinking (above). Eight of twelve participants volunteered that critical thinking involves either "uncovering," "questioning," "examining," or "testing" assumptions which may indicate they are at least somewhat familiar with the literature. However, what "exploring assumptions" meant to participants varied. Like Brookfield (1987), six of these eight participants view critical thinking positively and indicated that critical thinking meant reflecting on one's assumptions about one's own thoughts, beliefs, or behaviors. Two participants, however, were critical of this view, suggesting that "one's own assumptions" are too narrow unless they are informed by an expanded worldview and that what needs to be challenged are one's assumptions about larger issues such as "the reality of the world" and "what you're trying to do in the world."

In a departure from the adult education and organizational literature, however, participants did not share a common understanding of critical thinking. Instead, they

offered a vast range of meanings. In fact, data analysis indicated that participants' responses can be placed on a continuum with narrower definitions on one end and broader definitions on the other. In between are a variety of individual conceptualizations of critical thinking.

Those who define critical thinking in a narrower sense tend to agree that it is a discrete, cognitive skill but differ as to which skill it is (e.g., problem-solving, logic, questioning one's actions, compare/contrast, metacognition, or one of the higher order thinking skills [analysis, synthesis, evaluation]). While some participants endorsed this narrow conceptualization of critical thinking, others were put off by such an "abstract" intellectual skill which seemed "devoid of feeling." Although the adult education literature does not view critical thinking this narrowly, there is a basis for this narrow perspective in the general literature on critical thinking (e.g., Beyer 1984; D'Angelo, 1971; Dressel and Mayhew, 1954; Kurfiss, 1988).

In contrast to these narrow views, some participants proposed broader definitions of critical thinking. For example, many participants defined critical thinking as "a process" as did the adult education literature (Brookfield, 1987; Darkenwald & Merriam, 1982; Fulton, 1989; Garrison, 1991). However, the process they perceived differed across participants. The same was true of "praxis," another definition offered by several participants as well as by theorists Freire (1970) and Brookfield (1987). Other participants, in agreement with the literature, suggested critical thinking involved not only cognitive skills but also the emotions and affective dispositions such as "cynicism." At least one participant considers critical thinking a "teaching methodology."

Whether they offered narrow or broad definitions, many participants seemed vague and general about the concept. Definitions included "deeper thinking," "lateral thinking," "more personal, more meaningful [thinking]," and "trying to see in many ways." This vagueness and confusion about critical thinking also is cited in the literature (Bangert-Drowns & Bankert, 1990; Garrison, 1991).

Participants also disagreed among themselves about whether critical thinking is an internal or external process. Like Halpern (1984), most participants implied critical thinking was done by individuals acting alone, and they seemed satisfied with that explanation. Other participants agree that critical thinking is an internal process, but they find such an individualized approach to be one of the shortcomings of the process. Several participants indicated that the process of critical thinking requires people to "step outside themselves" in order to examine their assumptions more objectively. While this process might be desirable, the literature suggests it is very difficult for individuals to "stand outside ourselves and see how some of our most deeply held values and beliefs lead us into distorted and constrained ways of being" (Brookfield, 1997, p. 19; also see Michelson, 1997). Still others believe critical thinking is both an internal and external process which reflects the literature depicting critical thinking as reflection (an internal process) followed by communication with others (an external process) (Brookfield, 1987; Dewey, 1933; Mezirow, 1991).

Finally, participants presented differing perspectives about the purpose of critical thinking. On one hand, some participants feel the function of critical thinking is individual development, particularly the development of cognitive skills. Their

perspectives reflect the literature; e.g., the early writings of Brookfield (1987) and Mezirow (1978, 1981). Other participants agree that the purpose of critical thinking is individual development, but they view this function as abstract, academic, self-centered, and insulated. In their words, critical thinking is merely "sharpening up one's intellectual skills" or "the brain exercising itself."

While some participants favored critical thinking because of its contributions to individual development, two participants criticized it because it lacked a social function. In fact, one participant abandoned critical thinking because, in her view, it is unable to effect social change. Instead, she advocates for "critical pedagogy" or "criticality." Her position coincides with Merriam and Caffarella's (1999) understanding that critical pedagogy "directly confronts issues of power and control, conflict and oppression, and mandates action to deal with social inequities as they are revealed in learning encounters" (p. 83). Similarly, Ewert and Grace (2000) discerned that critical reflection "takes the educational process far beyond the instrumental learning, beyond the acquisition of knowledge or the development of skills" (p. 338).

In general, the findings discussed in this section of the study are ambivalent and inconclusive. Participants disagree with one another about the meaning, the process, and the purpose of critical thinking. The adult education literature, on the other hand, provides generally consistent views on the definition and process of critical thinking but diverse views on the purpose of critical thinking. A comparison of study findings to the literature, therefore, produced a mosaic depicting ranges of agreement and disagreement.

Given such widely divergent understandings of critical thinking, how do graduate faculty in adult education treat critical thinking in their practice? Turning from participants' conceptualizations of critical thinking, I now discuss their beliefs about factors that affect their pedagogy.

Impacts on Teaching

Adult educators in this study believe their teaching is impacted by two contextual factors (student diversity and the level and nature of courses) and four pedagogical factors (environment, course content, teaching processes, and evaluation techniques). By looking across the data on all six factors, I realized two key questions were being addressed: (1) "Whose voice is heard in adult education classrooms?" and (2) "How is student growth or change assessed?" For discussion purposes, I selected the most significant contextual and pedagogical factors and grouped them under these two umbrellas. "Whose voice is heard?" includes discussion of participants' beliefs related to: students, building a learning community, teaching styles, and instructional methods. "How is change assessed?" includes discussion of participants' beliefs about evaluating students' development.

Whose Voice Is Heard?

To answer this query, I begin by discussing participants' beliefs about their students -- in other words, their views about whose voices are present in the classroom. Regarding the composition of their student population, participants described a "broad spectrum" of students coming into their programs. Students were described as being

diverse according to their life experiences and professional goals. These perceptions confirmed adult education literature which described the wide-ranging diversity of adult learners (Merriam & Caffarella, 1999) and the significance of adult learners' unique life experiences (Boud & Miller, 1996; Brookfield, 1987; Freire, 1970; Knowles, 1980; Lindeman, 1961; Mezirow, 1981; Usher et al., 1997).

Even though adult learners may be diverse by certain criteria, the literature showed that "typical participants" in adult education programs are fairly homogeneous. According to 1986 U.S. Department of Education statistics, by race/ethnicity, 87% of participants in adult education programs were white, seven percent were black, three percent were Hispanic, and two percent were other (cited in Merriam & Caffarella, 1991). In addition to being mostly white, Johnstone and Riveria found that compared to non-participants, adult learners are "better educated, younger, have higher incomes, and are most likely employed full time" (cited in Caffarella & Merriam, 2000, p. 57). Previous education has the strongest correlation with participation (Cervero & Kirkpatrick, 1990) as one participant in the present study claimed.

Despite the reported homogeneity of their students, many participants in this study believe it is important to have cultural and racial diversity in their classrooms because these students add perspectives that would not otherwise be heard. Some participants who didn't have such diversity sought it out albeit in differing ways with one actively recruiting minority students and one creating classroom activities centered around multiple racial and cultural perspectives. Their actions reflect current literature that reports that adult educators have a growing awareness of the need to address cultural

diversity or inclusive approaches to education (Cunningham, 1988; Ewert & Grace, 2000; Imel, 1995; Johnson-Bailey & Cervero, 2000).

In addition to student diversity, participants described their beliefs about pedagogical factors that affect whose voice is heard in the classroom. I will discuss three of these – the type of learning community created, the choice of teaching style employed, and the instructional methods utilized.

Participants expressed strong feelings about the importance of creating an environment that is welcoming, safe, and respectful of individual differences – an environment where all voices can be heard. They worry that if students do not feel safe in the environment, they may not make public their beliefs and experiences in discussions or through their writings. They also worry about the group functioning as a group by supporting and challenging one another. Further, they are concerned that some voices, including the instructor's, might dominate. One strategy participants use to build a safe and democratic learning community is having the group establish ground rules. This approach also is evident in the literature (Tisdell, Hanley, & Taylor (2000).

Participants' views on building a learning environment confirm a growing body of literature preoccupied with the issue of how to create an "inclusive learning environment for all adults" (Tisdell, 1995, p. 83) that allows all voices to be heard (Brookfield, 1995; Colin & Preciphs, 1991; Collard & Stalker, 1991; Hayes, 1989; Kerka, 1993; Ross-Gordon, 1994; Tisdell, 1993). Specifically, the literature cites the importance of having each perspective be equally represented, heard, valued, respected, and recognized (Ewert & Grace, 2000; Taylor, 1994); making sure "the less visible are

not neglected" (Ewert & Grace, 2000, p. 337); and "elevat[ing] learners' voices to a position of prominence" (Brookfield, 2000, p. 48).

A second pedagogical factor related to whose voice is heard is the teaching style used. Whether or not they teach critical thinking skills, participants tend to use either a traditional or a constructivist teaching approach. Two participants seem to utilize a traditional approach to teaching. In other words, they (the instructors) assume primary responsibility for planning, implementing, and evaluating the learning experience. Much of their instruction is teacher-directed, and, in fact, they use traditional teaching strategies such as lectures. The literature indicates that this model of teaching, similar to behavorism, is alive and well in formal educational settings (Merriam & Caffarelli, 1999; Podeschi, 2000) despite research and theory that promotes learner-centered or learner-directed models of instruction. The primary objection to the traditionalist approach is that "some ideas and people(s) are privileged; others are marginalized" (Cunningham & Fitzgerald, 1996, p. 49).

Conversely, ten of 12 participants follow a constructivist orientation to teaching and learning. They appear to view learning as a process of constructing meaning, and they view their role as adult educators as helping people make sense of their experiences. Given this perspective, these participants reiterate the literature in two fields of knowledge, namely, experiential learning and constructivism. In keeping with experiential learning theory (e.g., Knowles, 1980; Merriam & Caffarella, 1999), participants focused on learners' unique life experiences. As constructivists, they appear to have moved away from content and teacher-centered education, to learner and

learning-centered education (Pratt & Nesbitt, 2000). To this end, they use a variety of self-directed, collaborative, and sociological methods of teaching.

In the spirit of Knowles' andragogy, some participants attempt to give their students increasing responsibility for their learning by utilizing learning contracts or learning plans. Participants' views on self-directed learning reflect the literature which supports andragogy, the best known model of self-directed learning, for giving greater emphasis to learners' experiences and participation in learning while shifting the focus from "teacher-as-authority to teacher-as-facilitator" (Pratt & Nesbitt, 2000, p. 120). In addition, participants' decision to use self-directed methods confirms the literature which notes that "the constructivist view of learning is particularly compatible with the notion of self-direction, since it emphasizes the combined characteristics of active inquiry, independence, and individuality in a learning task" (Candy, 1991, p. 278).

Participants' attempts to use collaborative teaching methods – with everyone teaching and learning from one another – also parallels the literature on adult learning theory and psychological development which suggests that much of adult learning takes place within groups (Tennant, 1991). Further, participants' views reinforce the literature on constructivism which posits that knowledge is constructed when individuals engage in group discussions and activities (Merriam & Caffarella, 1991).

The final perspective related to "whose voice is heard" came from two participants who believe that knowledge is socially constructed by instructors and students (diverse by race, class, and culture) for the purpose of building a better world. Their emphasis on sociocultural approaches to teaching and learning reinforces the

literature which points out that "how an individual or a community constructs knowledge and the type of knowledge constructed are socioculturally dependent" (Merriam & Caffarella, 1999, p. 349).

Participants' perspectives on teaching style – traditional or constructivist – is, then, one impact on their teaching that helps determine whose voice will be heard in the classroom. Another "voice" impact is the instructional strategies graduate faculty employ with adult learners.

While participants talked about instructional strategies, they did not distinguish between teaching critical thinking skills and teaching other concepts. It appears that they use the same instructional strategies no matter what curriculum they teach. Thus, generally speaking, participants' instructional strategies and facilitative behaviors (e.g., discussion, case studies, and critical questioning) are learner-centered, experiential, participatory, and collaborative in keeping with the principles of adult learning theory as described in the literature (Caffarella, 1992; Galbraith, 1998; Kasworm & Marienau, 1997; Merriam & Caffarella, 1999; Wilson & Hayes, 2000; Wlodkowski & Ginsberg, 1995). However, some strategies (e.g., learning contracts, learning journals, and portfolios) used by participants are intended to increase individual students' autonomy as learners and thus are not collaborative efforts. The efficacy of these self-directed instructional strategies also is evident in the literature (e.g., Brookfield, 1991; Cranton, 1994; Knowles, 1980). In addition, certain facilitator behaviors (e.g., modeling) are carried out by participants for the purpose of demonstrating for students a concept they could learn and utilize. This finding confirms the literature which describes modeling as

one of the most effective means by which adults learn (Brookfield, 1997; Brookfield & Preskill, 1999; Kurfiss, 1988; Merriam, 1984).

In brief, the literature reported that teaching strategies that allow participants to connect the material to their own life experiences (Knowles, 1980; Brookfield, 1987, 1998), allow for reflection (Brookfield, 1987; Candy, 1991; Mezirow, 1991; Schön, 1987), and encourage active participation (Merriam & Caffarella, 1999; Paul, 1992) and collaboration with others (Brookfield & Preskill, 1999; Cranton, 1994; Wlodkowski, 1999) seem to be useful starting points for adult learning. These are the instructional strategies that participants claim they use in their classrooms whether or not they teach critical thinking skills.

This concludes my discussion of the factors surrounding the question: "Whose voice is heard in adult education classrooms?" In this study, it appears that both learners' voices and facilitators' voices are heard in most adult education classrooms. This may occur because graduate faculty in adult education recognize the benefits to students and themselves when learners not only are given approval to share their stories but are encouraged to do so through a collaborative learning environment and use of instructional strategies which are learner-centered and participatory.

I turn now to a discussion of assessment issues which participants identified as another impact on their pedagogy.

How Is Student Growth Assessed?

In general, participants in this study reported that they do not have critical thinking as an objective for their courses, do not teach it directly, do not intentionally

assess students' growth in thinking skills, and often do not know if it is occurring. The latter perception corresponds with the literature that emphasizes the difficulty of trying to quantify changes in critical thinking (Brookfield, 1997; Kurfiss, 1988). Podeschi's (2000) question – "Is individual progress assessed primarily by quantifiable and measurable data?" (p. 622) – certainly is applicable to the assessment of critical thinking skills.

On the other hand, this study's participants felt their students left the program with a good level of critical thinking skills in place. To participants, the indicators of critical thinking include students' "growth in self-confidence," their "willingness to tolerate ambiguity," and their "new way of looking at the world." Further, participants believe they could sometimes assess growth in thinking ability (which many viewed as a by-product of their teaching) by gathering anecdotal evidence or observing nonverbal communication in the classroom. These techniques are consistent with the literature which approves naturalistic observation as a useful assessment strategy (Brookfield, 1997; Facione, 1990; Norris, 1988) and cites the importance of context in the assessment process (Brookfield, 1997).

Participants also gather somewhat more objective evidence by assessing students' writings, including learning journals and portfolios. Their perceptions coincide with the general literature on portfolios which suggests that portfolios provide more information about students' learning than other assessment methods (Clauson, 1997; Kasworm & Marienau, 1997) because the information comes from students' extensive self-evaluation (Angelo & Cross, 1993; Brookfield & Preskill, 1999; Clauson, 1997). Even so,

assessment of students' writing (and critical thinking) is subjective, requiring a considerable amount of judgment from the instructor (Gravatt, 1996).

In this study, the most objective data of student growth in thinking ability were results of pre- and post assessments (although the stated purpose was not to assess critical thinking skills) used by two participants. The literature affirmed that pre- and post testing can be an effective method of assessing changes in thinking skills if it is "grounded in local conditions" and "crafted by those integrally involved with the process" (Brookfield, 1997, p. 19).

In contrast to the literature (Angelo, 1995; Brookfield, 1987, 1990c, 1997; Kurfiss, 1988; Nummedal, 1994), participants do not typically use peer and self-evaluation of critical thinking. In fact, the literature views critical thinking as a social process which suggests the importance of having others (peers and facilitators) monitor our thinking (Brookfield, 1997). Also, the literature emphasizes the importance of self-evaluation because critical thinking is person-specific, and assessment should allow learners to document, demonstrate, and justify their own engagement in critical thinking (Brookfield, 1997; Willis, 1993). Further, self-evaluation helps move learners toward autonomy (Candy, 1991; Gravatt, 1996) and allows them to use assessment methods that are familiar to their cultures and experiences (Kasworm & Marienau, 1997).

Interestingly, while the current climate in adult and continuing education is rife with talk about "increased accountability" which is often discussed in terms of assessment of outcomes and benefits for learners as well as funding and support for programs (Angelo & Cross, 1993; Brookfield, 1997; Kasworm & Marienau, 1997),

participants in this study did not appear to be concerned with this issue – at least not in terms of assessing learners' critical thinking ability. Perhaps this occurred for several reasons: (1) participants do not think of critical thinking as a concept they explicitly teach or assess; (2) some may feel they do not have an informed understanding of what critical thinking is and therefore are uncertain how to go about assessing it; (3) some may be unaware of the known difficulties of attempting to assess gains in critical thinking which is often described as a complex process or skill involving cognitive and affective domains of learning (Brookfield, 1987; Mezirow & Associates, 1990); or (4) they may believe that they are assessing student learning, including the development of critical thinking skills, by using qualitative measures which they perceive are effective assessment strategies.

Up to this point I have discussed participants' perceptions of three themes – goals of adult education, conceptualizations of critical thinking, and beliefs about pedagogy. I turn now to the final theme – the degree of importance participants allocated to critical thinking in adult education.

Importance or "Place" of Critical Thinking in Adult Education

The "place" that participants attribute to critical thinking may be assessed by their beliefs about the value of critical thinking which, in turn, seems to be dependent on how they define critical thinking. (See previous discussion on conceptualizations of critical thinking.) Some participants view critical thinking as "the hallmark of adult education" while others reject it in favor of critical reflection or criticality. The majority, however – at least verbally – agree with the literature of the mid-1980's to the mid-1990's which

characterizes critical thinking as an important concept in adult education (Brookfield, 1987; Cranton, 1994; Garrison, 1991; Merriam & Caffarella, 1991).

On the other hand, participants generally stated that critical thinking is not an explicit objective for their courses. Explanations for this phenomenon varied. Some explained that critical thinking is a complex concept which makes it difficult to teach. The complexity of critical thinking is well established in the literature (Bangert-Drowns & Bankert, 1990; Garrison, 1991). Others indicated that "pragmatic" students might be put off by critical thinking because of its abstract nature. Whatever the reasons, eight of the twelve participants claimed they teach critical thinking using an indirect approach. Only two participants said they directly teach critical thinking skills, and the two remaining participants not only stated that they do not teach critical thinking skills but are, in fact, opposed to such instruction. In the literature, the indirect method of teaching critical thinking skills is considered less efficacious than the direct approach (Bangert-Drowns & Bankert, 1990; Halpern, 1993, 1998). In contrast to the literature, participants in this study believe their students are developing critical thinking skills even though they are teaching it indirectly (if at all) and are using subjective methods of assessing gains in thinking skills.

The fact that many viewed critical thinking as a "bandwagon concept" did not give "importance" to the critical thinking concept. In fact, many participants appear discouraged by the popularity of critical thinking which they view as "everybody wants to get on board, and people are using it in a variety of ways and with a variety of definitions . . . that it loses its meaning."

Another way that the "place" of critical thinking was defined was by how participants utilize their teaching time. Several participants identified lack of time as a reason for not giving much attention to the development of critical thinking skills. In some instances, participants suggested that there was more pressing course content (e.g., new information on a variety of topics or technical skill development) than critical thinking. Others indicated there was a limited amount of time for teaching (e.g., concentrated courses or a week end format for courses) which meant they must prioritize course content. Once again, critical thinking is not the highest priority for some participants. In this study, the range of time spent on teaching critical thinking skills was from nearly 100% of the time (one participant) to zero percent of the time (two participants).

Finally, some graduate faculty members seemed uncertain about the importance of critical thinking in adult education. Two participants, for example, stated it was not necessary to propel critical thinking to another level because it was already receiving appropriate attention in the curriculum. Paradoxically, later on, they wondered if there should be a specific curriculum on critical thinking in adult education.

In summary, it is clear from the results of this study that we are far from a state of affairs in which critical thinking is a "hallmark" of instruction in adult education programs. Based on their beliefs about the value of critical thinking and best uses of the time available for teaching, participants seem to hold the teaching of critical thinking skills in varying degrees of esteem and antipathy. Thus data on the importance of critical

thinking are unclear, and we are unable to assign a definite "place" to critical thinking in the adult education program.

Conclusions

An examination of participants' perceptions as well as the literature of the field resulted in the following conclusions.

1. There are conflicting and contested goals of adult education.

Participants in this study disagree about the primary purpose of adult education. Some indicated the primary goal of adult education is to help students develop as individuals ("nurturing perspective" [Pratt and Associates cited in Caffarella & Merriam, 2000, p. 62]). Specifically, they support one of three individual development goals: instrumental skill development, cognitive skill development, or development of self-concept. Other participants believe individual development doesn't go far enough. They advocate for a goal that prepares students to help create a more just society ("social reform perspective" [Pratt and Associates cited in Caffarella & Merriam, 2000, p. 62]). Participants' varied perspectives confirm the literature which states that these two goals are the subjects of heated debate in the field (Cunningham, 2000; Heaney, 2000; Podeschi, 2000; Quigley, 2000; Wilson & Hayes, 2000). However, even though we have conflicting and contested goals, both individual and social development are central to the field as Lindeman (1926) suggested.

2. There is little agreement about the conceptualization of critical thinking by graduate faculty in adult education.

Generally speaking, participants disagree with one another and with the literature about the meaning, the process, and the purpose of critical thinking. Unlike the adult education and organizational literature which offers a fairly uniform definition of critical thinking, participants provided varied, even contradictory, definitions of the concept. Some envision narrow meanings while others perceive broader meanings. Many provided vague definitions of critical thinking.

Further, participants differ on the process of critical thinking with some believing the process is internal (i.e., carried out by individuals working in isolation) whereas others believe the process is external (i.e., individuals working in collaboration with others). These different understandings conflict with the adult education literature which indicates that critical thinking begins as an internal process but is followed by an external process of communicating with others.

Finally, participants assume differing purposes of critical thinking. Most perceive and agree with an individual development function. However, others hope for a social reform function and not finding it with critical thinking have left this concept behind and have moved toward critical reflection or criticality. These conflicting perceptions confirm the literature which notes an individual development goal but disconfirms the literature which describes a social goal for critical thinking.

3. Graduate faculty in adult education may or may not be fostering critical thinking skills in their students.

Most participants in the study assumed that students in their courses are learning to think critically – even though: (1) critical thinking is not an explicitly stated objective of their courses, (2) there is little evidence that they are incorporating it into their curriculum, (3) contrary to the literature, they teach critical thinking indirectly rather than directly, and (4) they offer little tangible evidence to verify this assumption. Despite these "truths," participants claimed they witness – firsthand or through anecdotal evidence – changes in students' self-confidence and behaviors which they perceive as indicators of gains in critical thinking skills. The same type of evidence also was proffered by the two participants who claimed to teach critical thinking directly. Perhaps this means that assessment of gains in critical thinking is as much an art as a science.

4. What matters in adult education may not be critical thinking but critical reflection.

The question about the "place" of critical thinking in adult education is closely tied to the continuing debate in the field about the goal of adult education. Study findings suggest two primary reasons why emphasis may be shifting from critical thinking to critical reflection. First, participants in this 2000 study did not identify critical thinking as a goal of adult education despite the literature that for a decade (mid-1980's to mid-1990's) considered critical thinking the "hallmark" of adult education. Second, two participants in this study (individuals who are considered leaders in the field of adult education) confirmed current literature (particularly the Handbook of Adult and Continuing Education, 2000) that emphasizes "critical reflection" as a strategy for moving the field away from the individual development goal and toward a social reform goal.

Questions and Implications

What I discovered from interpreting the data of this study is the difficulty of formulating theoretical implications based on the varied, even conflicting, data that emerged. While I recognize that in most cases there would be possibilities for what we might do to improve practice, this study produced more questions than answers. This discovery seems appropriate in light of the research topic. Critical thinking and, subsequently, critical reflection seem to begin with posing questions.

In this section, I raise three interrelated questions which emerged from study findings and suggest implications for adult education practice.

1. What is the work of adult education at the beginning of the 21st century?

The answer to this question is subject to debate. Although the conversation was begun decades ago, we still do not know which goal(s) – individual or social development or both – are realistic and relevant for adult education. There are, however, two possible strategies for moving the discussion forward. The first is continuation of the dialogue. Although the conversations may not result in convergence on any single goal, they could shed light on significant issues and facilitate the negotiation of differences. The second strategy, as Wangoola and Youngman (1996) pointed out, is "critical self-reflection" whereby adult educators take time "to reconsider the nature of their work and its place in society" (p. 3). Their view coincides with the counsel of adult educators writing in the Handbook of Adult and Continuing Education (2000).

Participants' perceptions of the goals of adult education are one vehicle for continuing the discourse. Recent literature is another vehicle – one that raises additional questions about the goal(s) of adult education. For example, Podeschi (2000) queried: Should there be a single goal for a field as broad as adult education? Is there room for more than one goal – i.e., is there room for "philosophical pluralism" (p. 613)? Is it preferable to continue the "ongoing tension " rather than to force consensus which would leave many adult educators with a goal they could not support? In the end, he recommends "protecting philosophical pluralism and creative individuality" (p. 625) by encouraging debate among adult educators and by "confront[ing] our own premises as well as those of others" (p. 625).

On the other hand, Heaney (2000) asks what the outcome will be if adult educators simply continue their debate about the goal of adult education. Is the result "inaction" (p. 567) or worse yet maintenance of the status quo which, for some at least, means support for corporations and further repression of the oppressed (p. 568). His proposed solution, like that of a minority of other adult educators, is to "recommit to social purposes that guided our field at the beginning of the last century" (p. 559).

In between the positions of Podeschi (2000) and Heaney (2000) are the views of other adult educators who have taken part in the conversation about the primary function of adult education. Given these widely varying perceptions about the goal of adult education, it seems that adult educators could gain new insights into the issues through continued conversation and critical self reflection.

2. If there is continuing conversation about the goals of adult education and if there is movement toward social development, what might adult educators need to understand about their changing work?

This question, like the first question, stimulates a host of additional questions. For example, several adult educators (e.g., Cunningham, 2000; Ewert & Grace, 2000; Heaney, 2000; Quigley, 2000) note that the sociological perspective is committed to inclusivity and wonder how adult educators might recruit and ensure that marginalized people are included? How might they develop trust and build relationships among participants who differ by race, class, and culture? How might they ensure that all voices are heard in the shared decision-making process?

Other adult educators emphasize the social responsibility their field holds and wonder how adult educators might engage in the formation and implementation of social policy (Heaney, 2000; Quigley, 2000). Several worry about how adult educators might obtain funding – particularly government, corporate, and institutional support – if they relocate their practice in civil society, not in the economic sector (Cunningham, 2000; Heaney, 2000; Quigley, 2000).

Other issues of concern to adult educators include: how might they challenge power and privilege (Cunningham, 2000; Heaney, 2000; Quigley, 2000); assist with redistribution of power throughout social structures (Cunningham, 2000); and engage learners in participatory research (Cunningham, 2000; Quigley, 2000).

Since the leadership in the field of adult education has given its support to social development as the primary goal of adult education (see Handbook of Adult and

Continuing Education, 2000), graduate faculty may wish to study in-depth the merits and drawbacks of pursuing this goal.

3. Given the current emphasis on "critical reflection," does critical thinking in adult education really matter?

Perhaps the answer rests with how we understand the meaning of these concepts. Critical thinking has been connected primarily with individual development while "taking a critically reflective stance . . . usually encourages more inclusive, collaborative, and democratic forms of adult education" (Brookfield, 2000, p. 47).

Adult education practice is filled with complexities and ambiguities as this study and the literature indicate. Similar to the goal tension to which it is closely aligned, the tension between critical thinking and critical reflection may continue to evolve over time but may never be resolved – thus contributing to the elusive quest for a definition of the field of adult education.

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Appendix A

HSRR: 8/18/93
(Microsoft Word version)

To be completed by the investigator:

Proposal Title: Critical Thinking in Adult Education: Myth or Reality?

Investigator: Joann M. Vaske

Faculty research advisor (for student research): Pamela M. Curtiss

To be completed by the Human Subjects Research Review Committee Member:

Date received: 9126

Decision:

X Approval, no risk

_____ Approval, no minimum risk

_____ Approval, subjects at risk, but benefits outweigh risks

_____ No approval, Subjects at risk or proposal does not adequately address risks, benefits or procedures.

Reasons for Disapproval: _____

Suggested Changes: _____

Reviewer: C. Hoffman

Date: 10/02/00

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HSRR Cover Sheet

HSRR: 6/1/99
(Microsoft Word version)

DRAKE UNIVERSITY
HUMAN SUBJECTS RESEARCH REVIEW
PRINCIPAL INVESTIGATOR'S PROJECT OUTLINE FORM

Name of Principal Investigator: Joann M. Vaske

Department : Adult Education, Drake University School of Education

Title of Proposed Project: Critical Thinking in Adult Education: Myth or Reality?

Proposed Starting Date: October, 2000 Duration: May, 2001

Estimated Number of Human Subjects Involved in the Project: eight to twelve

I. Characteristics of Subjects (Check as many boxes as appropriate)

_____ Minors	_____ Disabled	_____ University Students
__X__ Adults	_____ Pregnant Women	_____ Secondary School Pupils
_____ Prisoners	_____ Legally Incompetent	_____ Elementary School Pupils

II. Consent and Withdrawal Procedures, Notification of Results

A. Consent obtained from: __X__ Individual ___ Institution __Parent/LegalGuardian
___ Other (Specify) _____

B. Type of Consent: __X__ Written (attach copy of consent statement)

___ Oral (attach explanation for not using written consent and attach a verbatim statement of the oral instructions to the subject.

C. Subjects are informed of withdrawal privileges (attach copy of consent statement).

D. Subjects notified of results: __X__ Mail __X__ Individual Consultation
____ Group Meetings

Respondents will be notified when findings are available. Those who wish to receive a summary of the results may request them (see Attachment A).

HUMAN SUBJECTS RESEARCH REVIEW APPLICATION
RESPONSES TO ADDITIONAL QUESTIONS

III. Risks

There are no known risks and/or discomforts to the respondents, either physical, psychological, or social.

IV. Benefits

Respondents can be expected to leave participation in this study with a better understanding of the nature of critical thinking in adult education. Respondents will also have the opportunity to contribute to a theory of critical thinking in adult education. This will be helpful to them as they design and implement curriculum, instructional strategies, and evaluation techniques intended to develop students' critical thinking skills.

V. Methodology/Procedures

A. Selection of Participants: Adult educators who teach adult education courses in institutions granting graduate degrees in adult education will be contacted by letter (see Attachment B) and invited to participate in the study. Selection criteria include: volunteer participants must have participated in a previous study on critical thinking by the investigator, have registered and plan to attend the fall 2000 adult education conference in Rhode Island, agree to be interviewed, and agree to submit documents related to the conduct of critical thinking in their classrooms. Those who agree to participate will be sent a copy of the consent form (Attachment C). When the consent form has been signed and returned, the researcher will contact each volunteer by telephone to provide additional information about the study, answer any questions the participant has, reaffirm their interest in the study, request relevant documents (e.g., course materials, assignments, and student projects related to critical thinking), and schedule a time/location for the interview.

B. Procedures: For this qualitative research study, the researcher will conduct unstructured, open-ended, face-to-face interviews (approximately one hour in length) with each adult educator who volunteers to participate in the study. The interviews will be conducted during the adult education conference in a location agreeable to the participants. The interviews will be audiotaped, transcribed verbatim, and coded. Data will be analyzed using the constant comparative method. Documents submitted by the participants will also be reviewed and analyzed. In addition, the researcher will keep field notes which will be analyzed. The systematic data collection and data analysis procedures will result in a clearer understanding of the meaning of critical thinking in adult education. (See proposal abstract, Attachment D).

C. Orientation Materials
Participants will have some familiarity with the research study based on their participation in a previous study by the researcher on the topic of critical thinking in adult education. They will be oriented to the current study through the letter sent to them, the consent form, the telephone conversation with the researcher, and reminders of this information at the outset of their interview with the researcher. Because this is a qualitative study, the research design will emerge throughout the

study. A precise interview protocol cannot be developed. In addition, the interviews, by design, will be unstructured and open-ended. The researcher will begin each interview with a single question, "What are your beliefs about critical thinking?" From there, depending upon respondents' answers, the interview may continue many different ways. The researcher will use a variety of questions including follow up questions, probing questions, direct questions, and indirect questions to continue the interview process.

VI. Check list. Submit three copies of the proposal you are filing. Each proposal should consist of the "HSRR Cover Form, and the "HSRR Project Outline Forms" with additional sheets and attachments as indicated (including any prospectus materials). Additionally, two copies of the "HSRR Final Notification Form" should be submitted.

VII. Agreements: By signing this form, the principal investigator agrees to the following:

A. To conform to the policies, principles, procedures, and guidelines established by the Drake Committee on Human Subjects Research.

B. To supply the committee with documentation of subject selection procedures and informed consent procedures.

C. To inform the committee of any changes in procedures which involve human subjects, giving sufficient time to review such changes before they are implemented.

D. To provide the committee with any progress reports it may request.

E. To obtain appropriate clearance or written permission from other institutions or agencies involved in the research. Such documentation should be filed with the HSRR.

F. The signature of the faculty advisor is required for all student research.

_____ _____

Signature of Primary Investigator Date

_____ _____

Signature of Faculty Advisor Date

HSRR Project Outline Form

Attachment A

REQUEST FOR SUMMARY OF RESEARCH FINDINGS

Please send me a summary of your research findings on critical thinking in adult education when the information becomes available.

Name _____

Address _____

City _____ State _____ Zip _____

Attachment B

COVER LETTER TO ADULT EDUCATORS

September 26, 2000

Dear (Adult Educator):

Currently, I am a doctoral candidate in the Adult Education Program at Drake University. Perhaps you remember completing a questionnaire sent to you three years ago on the topic of critical thinking in adult education. The exploratory study I conducted then was part of my research for my graduate thesis. I want to thank you again for cooperating with my research efforts by responding to the questionnaire.

My interest in critical thinking continues. For my doctoral dissertation, I am conducting a grounded theory study on the meaning of critical thinking in adult education. The primary data collection method will be interviews (approximately one hour in length) with adult educators who responded to the previous questionnaire and who are willing to participate in the proposed grounded theory study.

Although my preference would be to visit volunteers on their campuses, limited resources prohibit this approach. Alternatively, I plan to conduct interviews with volunteers during the American Association of Adult and Continuing Education (AAACE) Conference, November 13-17, 2000, in Providence, Rhode Island. Participants in the study will not be identified by name or other characteristics that may reveal their identity.

If you are planning to attend the AAACE conference in November and are willing to participate in the study, would you please complete the attached form and return it in the self-addressed, stamped envelope **by October 9, 2000**. Also, if you are NOT planning to attend the AAACE conference but would be willing to participate in this study, would you please indicate that, complete the form, and return it. Thank you for your professional cooperation with my research efforts.

Please contact me (515-261-0004), jvaske@iptv.org, or my advisor, Dr. Pamela M. Curtiss (515-271-2599), pamela.curtiss@drake.edu, if you have questions regarding the research study. I look forward to receiving your responses and working with you to contribute to the body of knowledge on the meaning of critical thinking in adult education.

Sincerely,

Joann M. Vaske

Enclosures: Return form
Stamped self-addressed envelope

Return Form

CRITICAL THINKING SKILLS IN ADULT EDUCATION

_____ I will be attending the AAACE conference in November and am willing to participate in the proposed study.

_____ I will NOT be attending the AAACE conference but would be willing to participate in the proposed study.

Name: _____

Title: _____

Institution: _____

Division: _____

Mailing address: _____

_____

_____

Telephone: _____

Fax: _____

E-mail: _____

What percent of your course load is spent teaching adult education courses? _____%

How many years of experience have you had in teaching adult education courses? _____Years

What is your rank: _____Instructor _____Asst. Professor _____Associate Professor

_____Full Professor _____Other (specify)_____

Gender: _____Female _____Male

Please complete this form and return it in the stamped, self-addressed envelope by October 9, 2000. Thank you.

Attachment C

CRITICAL THINKING IN ADULT EDUCATION: MYTH OR REALITY?:

A Grounded Theory Study

(Consent Form)

The following information is provided for you to decide whether you wish to participate in the proposed study. You should be aware that you are free to decide not to participate or to withdraw at any time.

The purpose of this study is to understand the meaning of critical thinking in adult education. The procedure will be a grounded theory study. Data collection will involve interviews, documents (course syllabi, course documents that reflect components of critical thinking, and student products that reflect an understanding of critical thinking), and field notes made by the researcher.

Do not hesitate to ask any questions about the study either before participating or during the time that you are participating. I will be happy to share study findings with you after the research is completed. However, your name will not be associated with the research findings in any way, and your identify as a participants will be known only to the researcher.

There are no known risks and/or discomforts associated with this study.

The expected benefits associated with your participation are the information about critical thinking that emerges and the opportunity to contribute to a clearer understanding of the meaning of critical thinking in adult education.

Please sign your consent with full knowledge of the nature and purpose of the study. A copy of the consent form will be given to you to keep.

_____ _____

Signature of Participant Date

Joann M. Vaske, Researcher, 515-261-0004
jvaske@iptv.org

Attachment D

CRITICAL THINKING IN ADULT EDUCATION: MYTH OR REALITY?

An abstract of a Dissertation by
Joann M. Vaske
September 2000
Drake University
Advisor: Pamela M. Curtiss

Critical thinking skills are considered the most effective way to prepare individuals for a productive, full, and satisfying life in our fast-changing and highly technical world. Adult educators espouse the development of critical thinking skills and claim it as a goal of adult education.

Much has been written about critical thinking, including a variety of definitions, teaching methods, and evaluation strategies. However, little research on critical thinking has been reported in the adult education literature. Further, little is known about the intersect of theory and practice related to critical thinking in adult education.

The purpose of this qualitative research study is to gain an understanding of adult educators' experience of critical thinking. Grounded theory methodology will be used to develop a clearer understanding of the meaning of critical thinking in adult education. The primary data source will be unstructured interviews with eight to twelve adult educators who currently teach or previously taught adult education courses in institutions in the United States that offer graduate degrees in adult education. Other data sources will include relevant documents and field notes. Data will be coded and analyzed using the constant comparative method. Data collection and analysis will continue until emerging themes are stabilized.